

CITY OF BLOOMINGTON, ENGINEERING DIVISION

CONSTRUCTION PLAN FOR 2013-304

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENT PROJECT

STORM SEWER, SANITARY SEWER, WATERMAIN, GRADING, BASE, BITUMINOUS SURFACE, CURB AND GUTTER, SIDEWALK, AND LIGHTING

LEGEND

	EXISTING	PROPOSED
CENTER LINE	---	---
RIGHT OF WAY LINE	----	----
PROPERTY LINE	----	----
PERM. EASEMENT LINE	----	----
TEMP. EASEMENT LINE	----	----
SECTION LINE	----	----
EDGE OF ASPHALT	----	----
CURB & GUTTER LINE	----	----
REMOVE CURB AND GUTTER	----	----
REM AND REPLACE C & G	----	----
SEWER LINE	---	---
SEWER SERVICE LINE	---	---
STORM SEWER	---	---
WATER LINE	---	---
WATER SERVICE LINE	---	---
WATER SRVC. LINE (ABAN.)	---	---
CATV LINE	---	---
COMMUNICATION	---	---
IRRIGATION	---	---
GAS LINE	---	---
OVERHEAD ELECTRIC	---	---
FIBER OPTIC	---	---
UNDERGROUND ELECTRIC	---	---
TELEPHONE CABLE	---	---
UTILITY HANDHOLE	---	---
UTILITY POLE	---	---
LIGHT POLE	---	---
UTILITY POLE W/ LIGHT	---	---
GUY WIRE	---	---
MANHOLE; STORM, SAN.	---	---
CATCH BASIN	---	---
HYDRANT	---	---
WATER VALVE	---	---
WATER VALVE IN MANHOLE	---	---
RAILROAD	---	---
CONIFEROUS TREE	---	---
DECIDUOUS TREE	---	---
CLEAR AND GRUB TREE	---	---
HEDGE	---	---
PED. CURB RAMP	---	---
TRAFFIC SIGNAL	---	---
SIGN	---	---
BLOCK RETAINING WALL	---	---
WOOD RETAINING WALL	---	---
WOOD RETAINING WALL	---	---
TREE LINE	---	---
CHAIN LINK FENCE	---	---
WOOD FENCE	---	---
WIRE FENCE	---	---
EROSION CONTROL FENCE	---	---
INLET PROTECTION	---	---
SANITARY MANHOLE	---	---
STORM MANHOLE	---	---
SOIL BORING	---	---
CONCRETE WALK	---	---
REMOVE CONCRETE WALK	---	---
BITUMINOUS SURFACE	---	---
REM. BITUMINOUS SURF.	---	---
CONCRETE WALK SPECIAL	---	---
GRAVEL SURFACE	---	---
MILL BITUMINOUS SURFACE	---	---
BUILDING	---	---
SUBGRADE EXCAVATION	---	---

LOCATED ON: E. 81ST ST.
FROM 14+00 TO 33RD AVE. S.

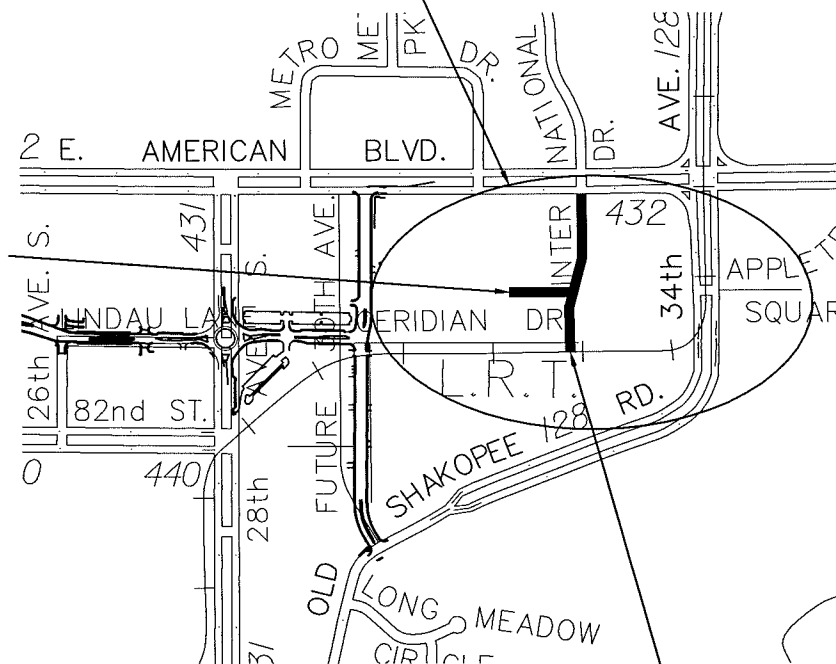
CITY PROJ. NO. 2013-304
GROSS LENGTH 486 FEET
BRIDGES-LENGTH 0 FEET
EXCEPTIONS-LENGTH 0 FEET
NET LENGTH 486 FEET
REF POINT STA. 14+00 TO POINT STA. 18+86
DESIGN DESIGNATION(ROADWAY)-TIER NO. N/A
No. of Traffic Lanes = 2 Parking Lanes = 0
R-Value = 20
Design Speed = 30 mph Ton Design = 9
Functional Classification = LOCAL-URBAN
Stopping Sight Distance Based On:
3.5 Feet Height Of Eyes
2 Feet Height Of Object

LOCATED ON: 33RD AVE. S.
FROM AMERICAN BLVD. TO LRT

CITY PROJ. NO. 2013-304
GROSS LENGTH 866 FEET
BRIDGES-LENGTH 0 FEET
EXCEPTIONS-LENGTH 0 FEET
NET LENGTH 866 FEET
REF POINT STA. 5+18 TO POINT STA. 13+84
DESIGN DESIGNATION(ROADWAY)-TIER NO. N/A
No. of Traffic Lanes = 2 Parking Lanes = 2
R-Value = 20
Design Speed = 30 mph Ton Design = 9
Functional Classification = LOCAL-URBAN
Stopping Sight Distance Based On:
3.5 Feet Height Of Eyes
2 Feet Height Of Object

PROJECT LOCATION

EAST 81ST STREET
STA. 14+00 TO 18+86
CITY PROJECT NO. 2013-304



PROJECT LOCATION
COUNTY: HENNEPIN
DISTRICT: METRO DIVISION

**Kimley-Horn
and Associates, Inc.**

2550 UNIVERSITY AVE. WEST, SUITE 238N
ST. PAUL, MINNESOTA 55114

TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL C. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38--2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

GOVERNING SPECIFICATIONS

THE 2014 EDITION OF THE MINNESOTA DEPARTMENT OF
TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION".

ALL TRAFFIC CONTROL DEVICES SHALL CONFORM AND BE INSTALLED IN
ACCORDANCE TO THE "MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL
DEVICES" (MN MUTCD) AND PART VI. "FIELD MANUAL FOR TEMPORARY TRAFFIC
CONTROL ZONE LAYOUTS".

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E13	ELECTRICAL WIRING DIAGRAMS
E14-E15	LIGHTING LOCATION PLANS
E16	LIGHTING TABULATION

THIS PLAN CONTAINS 83 SHEETS



SCALE IN FEET

PLAN	0 20
PROFILE	0 20 0 4 HORIZ. VERT.

Design Engineer: I hereby certify that this plan was prepared by me or
under my direct supervision, and that I am a duly registered Professional
Engineer under the laws of the State of Minnesota.

BY: *Thomas J. Lincoln*
THOMAS J. LINCOLN

Date: 06/10/2014 Registration Number: 21433

Shelly Perkins Date: 6/10/14
Approved: City Engineer

I HEREBY CERTIFY THAT THE FINAL FIELD REVISIONS, IF ANY, OF THIS
PLAN WERE MADE BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I
AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MINNESOTA.


DATE _____ REG. NO. _____

STATEMENT OF ESTIMATED QUANTITIES

SEQ Created: 6/11/2014 @ 2:37:56 PM				TOTAL QUANTITY	
ITEM NO.	ITEM DESCRIPTION	UNIT	NOTES	ESTIMATED QUANTITY	FINAL QUANTITY
2011.601	CONSTRUCTION SURVEYING	LUMP SUM		1	
2021.501	MOBILIZATION	LUMP SUM		1	
2101.502	CLEARING	TREE		3	
2101.507	GRUBBING	TREE		3	
2104.501	REMOVE SEWER PIPE (STORM)	LIN FT		59	
2104.501	REMOVE BITUMINOUS CURB	LIN FT		690	
2104.501	REMOVE CONCRETE CURB	LIN FT		1,500	
2104.503	REMOVE CONCRETE SIDEWALK	SQ FT		3,115	
2104.505	REMOVE CONCRETE PAVEMENT	SQ YD		75	
2104.505	REMOVE BITUMINOUS PAVEMENT	SQ YD		7,540	
2104.509	REMOVE CASTING	EACH		1	
2104.509	REMOVE DRAINAGE STRUCTURE	EACH		1	
2104.511	SAWING CONCRETE PAVEMENT (FULL DEPTH)	LIN FT		65	
2104.513	SAWING BIT PAVEMENT (FULL DEPTH)	LIN FT		1,405	
2104.523	SALVAGE LIGHT STANDARD AND LUMINARE	EACH		13	
2104.523	SALVAGE SIGN TYPE C	EACH		1	
2104.602	SALVAGE ROADWAY SIGN	EACH		1	
2104.602	ADJUST PULL BOX	EACH		1	
2104.602	REMOVE ELECTRIC MANHOLE	EACH		1	
2105.501	COMMON EXCAVATION (P)	CU YD		4,800	
2105.522	SELECT GRANULAR BORROW (CV) (P)	CU YD		1,600	
2105.604	GEOTEXTILE FABRIC TYPE V	SQ YD		456	
2105.607	STRUCTURAL SOIL BORROW (CV) (P)	CU YD		654	
2123.610	STREET SWEEPER (WITH PICKUP BROOM)	HOURL		150	
2130.501	WATER	MGALLONS		20	
2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD		2,000	
2301.603	PERMANENT TERMINAL HEADERS	LIN FT		55	
2301.604	CONCRETE PAVEMENT SPECIAL - TYPE 3 STANDARD WIDTH 8'	SQ YD		420	
2301.604	CONCRETE PAVEMENT SPECIAL - TYPE 4 STANDARD WIDTH 8'	SQ YD		430	
2357.502	BITUMINOUS MATERIAL FOR TACK COAT	GALLON		500	
2360.501	TYPE SP 12.5 WEARING COURSE MIX (4,B)	TON		950	
2360.502	TYPE SP 12.5 NON-WEARING COUSE MIX (4,B)	TON		890	
2503.541	12" RC PIPE SEWER DES 3006 CL V	LIN FT		70	
2503.541	15" RC PIPE SEWER DES 3006 CL V	LIN FT		327	
2503.541	21" RC PIPE SEWER DES 3006 CL IV	LIN FT		182	
2503.541	24" RC PIPE SEWER DES 3006 CL IV	LIN FT		142	
2503.602	CONNECT TO EXISTING SANITARY SEWER	EACH		1	
2503.602	CONNECT TO EXISTING STORM SEWER	EACH		4	
2503.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH		2	
2503.603	12" PVC PIPE SEWER SDR 35	LIN FT		140	
2503.603	15" PVC PIPE SEWER SDR 35	LIN FT		533	
2503.603	10" PVC PIPE SEWER SDR 35	LIN FT		340	
2504.601	IRRIGATION SYSTEM	LUMP SUM		1	
2504.601	IRRIGATION SYSTEM MODIFICATIONS	LUMP SUM		1	
2504.602	WATERMAIN OFFSET	EACH		1	
2504.602	CONNECT TO EXISTING WATERMAIN	EACH		2	
2504.602	INSTALL HYDRANT & VALVE	EACH		6	
2504.602	10" PIPE PLUG	EACH		2	
2504.602	12" PIPE PLUG	EACH		1	
2504.602	4" GATE VALVE AND BOX	EACH		2	
2504.602	6" GATE VALVE AND BOX	EACH		1	
2504.602	8" GATE VALVE AND BOX	EACH		3	
2504.602	12" GATE VALVE AND BOX	EACH		8	
2504.602	WATER SERVICE METER MANHOLE	EACH		1	
2504.603	1-1/2" PVC IRRIGATION SLEEVING, SCH. 40	LIN FT		870	
2504.603	4" PVC IRRIGATION SLEEVING, SCH. 40	LIN FT		1,750	
2504.603	4" WATERMAIN DUCTILE IRON CL 52	LIN FT		35	
2504.603	6" WATERMAIN DUCTILE IRON CL 52	LIN FT		310	
2504.603	8" WATERMAIN DUCTILE IRON CL 52	LIN FT		110	
2504.603	12" WATERMAIN DUCTILE IRON CL 52	LIN FT		850	
2504.603	WATERMAIN ENCASEMENT	LIN FT		1,350	
2504.604	WATERMAIN INSULATION	SQ YD		15	
2504.608	WATERMAIN FITTINGS	POUND		2,100	

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

STATEMENT OF ESTIMATED QUANTITIES



**CITY OF
BLOOMINGTON**
MINNESOTA

**1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (612) 853-8700**

**Kimley-Horn
and Associates, Inc.**


TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

2550 UNIVERSITY AVE. WEST, SUITE 2308
ST. PAUL, MINNESOTA 55114

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.


 THOMAS J. LINCOLN
 21433
 6/10/14
 LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
02 OF 83

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STATEMENT OF ESTIMATED QUANTITIES

SEQ Created: 6/11/2014 @ 2:37:56 PM				TOTAL QUANTITY	
ITEM NO.	ITEM DESCRIPTION	UNIT	NOTES	ESTIMATED QUANTITY	FINAL QUANTITY
2506.501	CONST DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT		55	
2506.501	CONST DRAINAGE STRUCTURE DESIGN 2'X3'	LIN FT		12	
2506.501	CONST DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT		15	
2506.501	CONST DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT		15	
2506.516	CASTING ASSEMBLY (STORM)	EACH		14	
2506.516	CASTING ASSEMBLY (SANITARY)	EACH		7	
2506.602	ADJUST MANHOLE	EACH		1	
2506.603	CONSTRUCT SANITARY SEWER OUTSIDE DROP MANHOLE	LIN FT		17	
2506.603	CONSTRUCT SANITARY SEWER MANHOLE (48" DIA.)	LIN FT		112	
2521.501	4" CONCRETE WALK SPECIAL 1	SQ FT		500	
2521.618	4" CONCRETE WALK SPECIAL 2	SQ FT		68	
2521.618	5" CONCRETE WALK SPECIAL 3	SQ FT		7,000	
2521.618	5" CONCRETE WALK SPECIAL 4	SQ FT		3,275	
2531.501	CONCRETE CURB & GUTTER DESIGN B618 SPECIAL 1	LIN FT		40	
2531.501	CONCRETE CURB & GUTTER DESIGN B612 SPECIAL 1	LIN FT		241	
2531.501	CONCRETE CURB & GUTTER DESIGN B618 SPECIAL 4	LIN FT		350	
2531.501	CONCRETE CURB & GUTTER DESIGN D418 SPECIAL 4	LIN FT		710	
2531.604	8" CONCRETE VALLEY GUTTER SPECIAL 3	LIN FT		320	
2531.604	8" CONCRETE VALLEY GUTTER SPECIAL 4	LIN FT		590	
2531.618	TRUNCATED DOMES	SQ FT		72	
2540.602	BOLLARD	EACH		6	
2540.603	LANDSCAPE EDGER	LIN FT		330	
2545.509	CONDUIT SYSTEM A (LIGHTING)	LUMP SUM		1	
2545.509	CONDUIT SYSTEM B (LIGHTING)	LUMP SUM		1	
2545.509	CONDUIT SYSTEM C (POWER)	LUMP SUM		1	
2545.509	CONDUIT SYSTEM D (POWER)	LUMP SUM		1	
2545.511	LIGHTING UNIT TYPE SPECIAL SP1	EACH		1	
2545.511	LIGHTING UNIT TYPE SPECIAL SP4	EACH		3	
2545.511	LIGHTING UNIT TYPE SPECIAL SP6	EACH		25	
2545.511	LIGHTING UNIT TYPE SPECIAL SP8	EACH		6	
2545.515	LIGHT BASE DESIGN SPECIAL B	EACH		16	
2545.515	LIGHT BASE DESIGN SPECIAL A	EACH		18	
2545.541	SERVICE CABINET	EACH		1	
2545.545	EQUIPMENT PAD	EACH		1	
2545.553	HANDHOLE	EACH		25	
2545.601	ELECTRICAL SYSTEM MODIFICATIONS	LUMP SUM		1	
2545.602	INSTALL SALVAGED LIGHT STANDARD AND LUMINARE	EACH		13	
2545.602	LIGHT BASE COVER	EACH		34	
2545.602	GFCI RECEPTACLE	EACH		40	
2563.601	TRAFFIC CONTROL	LUMP SUM		1	
2564.531	SIGN PANELS TYPE C	SQ FT		79	
2564.537	INSTALL SIGN TYPE C	EACH		1	
2564.602	INSTALL ROADWAY SIGN	EACH		1	
2571.502	DECIDUOUS TREE 3" CAL B&B	TREE		41	
2571.507	PERENNIAL NO 3 CONT	PLANT		602	
2573.502	SILT FENCE, TYPE MACHINE SLICED	LIN FT		2,200	
2573.530	STORM DRAIN INLET PROTECTION - TYPE 1	EACH		20	
2573.530	STORM DRAIN INLET PROTECTION - TYPE 2	EACH		1	
2573.533	SEDIMENT CONTROL LOG TYPE STRAW	LIN FT		455	
2573.602	TEMPORARY ROCK CONSTRUCTION ENTRANCE	EACH		5	
2574.525	COMMON TOPSOIL BORROW (CV) (P)	CU YD		240	
2575.505	SODDING TYPE SALT TOLERANT	SQ YD		410	
2575.513	MULCH MATERIAL TYPE 6	CU YD		21	
2575.513	MULCH MATERIAL TYPE 9	CU YD		38	
2575.571	RAPID STABILIZATION METHOD 3	MGAL		10	
2582.501	PAVT MSSG (RT ARROW) EPOXY	EACH		2	
2582.501	PAVT MSSG (LT-THRU ARROW) EPOXY	EACH		2	
2582.502	4" SOLID LINE WHITE-PAINT	LIN FT		1,000	
2582.502	4" SOLID LINE WHITE-EPOXY	LIN FT		160	
2582.502	4" DOUBLE SOLID LINE-YELLOW EPOXY	LIN FT		160	
2582.503	CROSSWALK MARKING - POLY PREFORM (GR IN)	SQ FT		192	

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

THOMAS J. LINCOLN 21433 6/10/14
LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
03 OF 83

CITY OF BLOOMINGTON MINNESOTA
1700 W. 10TH ST.
BLOOMINGTON MN 55431
PHONE (612) 882-8700

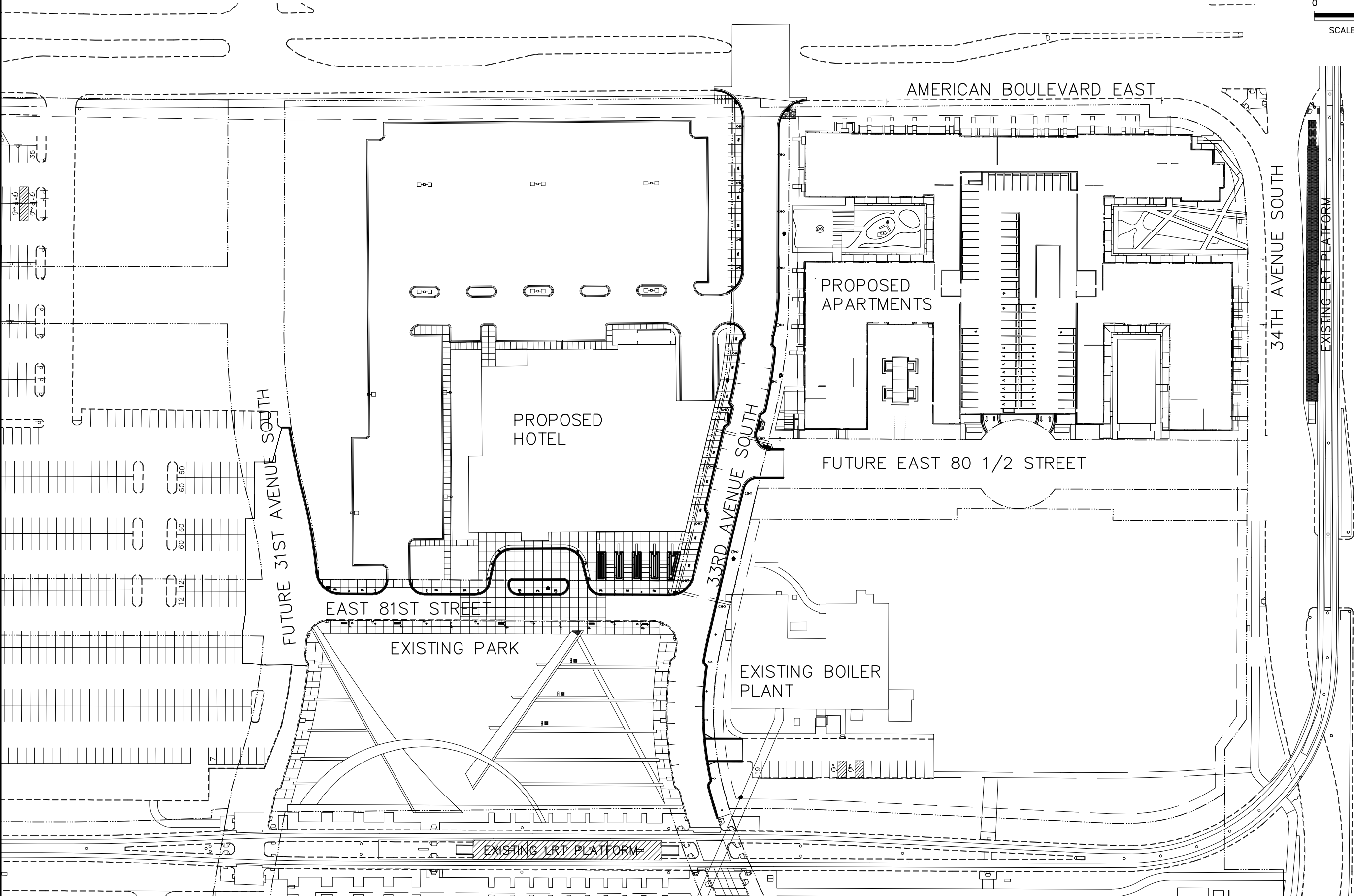
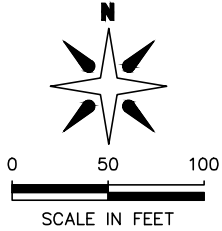
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE., WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
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BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

STATEMENT OF ESTIMATED QUANTITIES

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GENERAL LAYOUT



BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

CITY OF
BLOOMINGTON
MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

REVISIONS			BY
DATE	DESCRIPTION	ISSUED FOR BID	TJL
06/10/2014			

HEREBY CERTIFY THAT THIS PLAN WAS
PREPARED BY ME OR UNDER MY DIRECT
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PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
04 OF 83

Kimley-Horn
and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

GENERAL LAYOUT

- ## GENERAL NOTES

- THE FOLLOWING STANDARD PLATES APPROVED BY FHWA SHALL APPLY ON THIS PROJECT.

MN/DOT STANDARD PLANS	
PLATE NO.	DESCRIPTION
5-297.221	PAVEMENT JOINTS

CITY OF BLOOMINGTON MINNESOTA

**1700 W. 98TH ST.
BLOOMINGTON MN 55431
PHONE (952) 563-3700**

**Kimley-Horn
and Associates, Inc.**

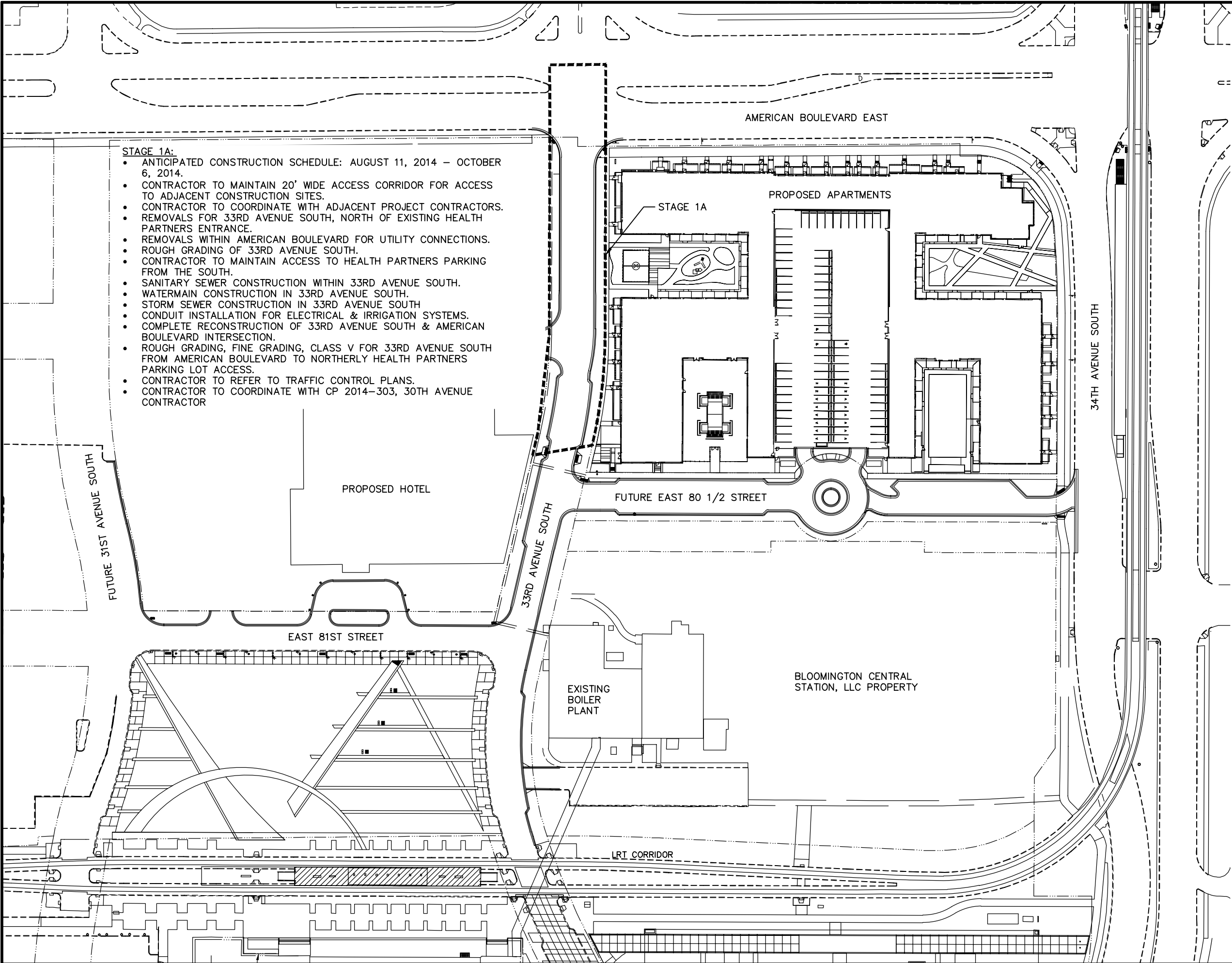
**TEL. NO. (612) 645-4017
FAX NO. (612) 645-5111
3640 UNIVERSITY AVE. SUITE 230N
ST. PAUL, MINNESOTA 55115**

I HEREBY CERTIFY THAT THIS PLAN WAS
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Thomas J. Lincoln 21433 6/10/14
THOMAS J. LINCOLN LIC. # DATE

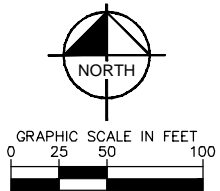
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05 OF 83

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STAGE 1A:

- ANTICIPATED CONSTRUCTION SCHEDULE: AUGUST 11, 2014 – OCTOBER 6, 2014.
- CONTRACTOR TO MAINTAIN 20' WIDE ACCESS CORRIDOR FOR ACCESS TO ADJACENT CONSTRUCTION SITES.
- CONTRACTOR TO COORDINATE WITH ADJACENT PROJECT CONTRACTORS.
- REMOVALS FOR 33RD AVENUE SOUTH, NORTH OF EXISTING HEALTH PARTNERS ENTRANCE.
- REMOVALS WITHIN AMERICAN BOULEVARD FOR UTILITY CONNECTIONS.
- ROUGH GRADING OF 33RD AVENUE SOUTH.
- CONTRACTOR TO MAINTAIN ACCESS TO HEALTH PARTNERS PARKING FROM THE SOUTH.
- SANITARY SEWER CONSTRUCTION WITHIN 33RD AVENUE SOUTH.
- WATERMAIN CONSTRUCTION IN 33RD AVENUE SOUTH.
- STORM SEWER CONSTRUCTION IN 33RD AVENUE SOUTH
- CONDUIT INSTALLATION FOR ELECTRICAL & IRRIGATION SYSTEMS.
- COMPLETE RECONSTRUCTION OF 33RD AVENUE SOUTH & AMERICAN BOULEVARD INTERSECTION.
- ROUGH GRADING, FINE GRADING, CLASS V FOR 33RD AVENUE SOUTH FROM AMERICAN BOULEVARD TO NORTHERLY HEALTH PARTNERS PARKING LOT ACCESS.
- CONTRACTOR TO REFER TO TRAFFIC CONTROL PLANS.
- CONTRACTOR TO COORDINATE WITH CP 2014-303, 30TH AVENUE CONTRACTOR



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Thomas J. Lincoln
THOMAS J. LINCOLN LIC. # 21433 6/10/14 DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
06 OF 83

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

CITY OF
BLOOMINGTON
MINNESOTA

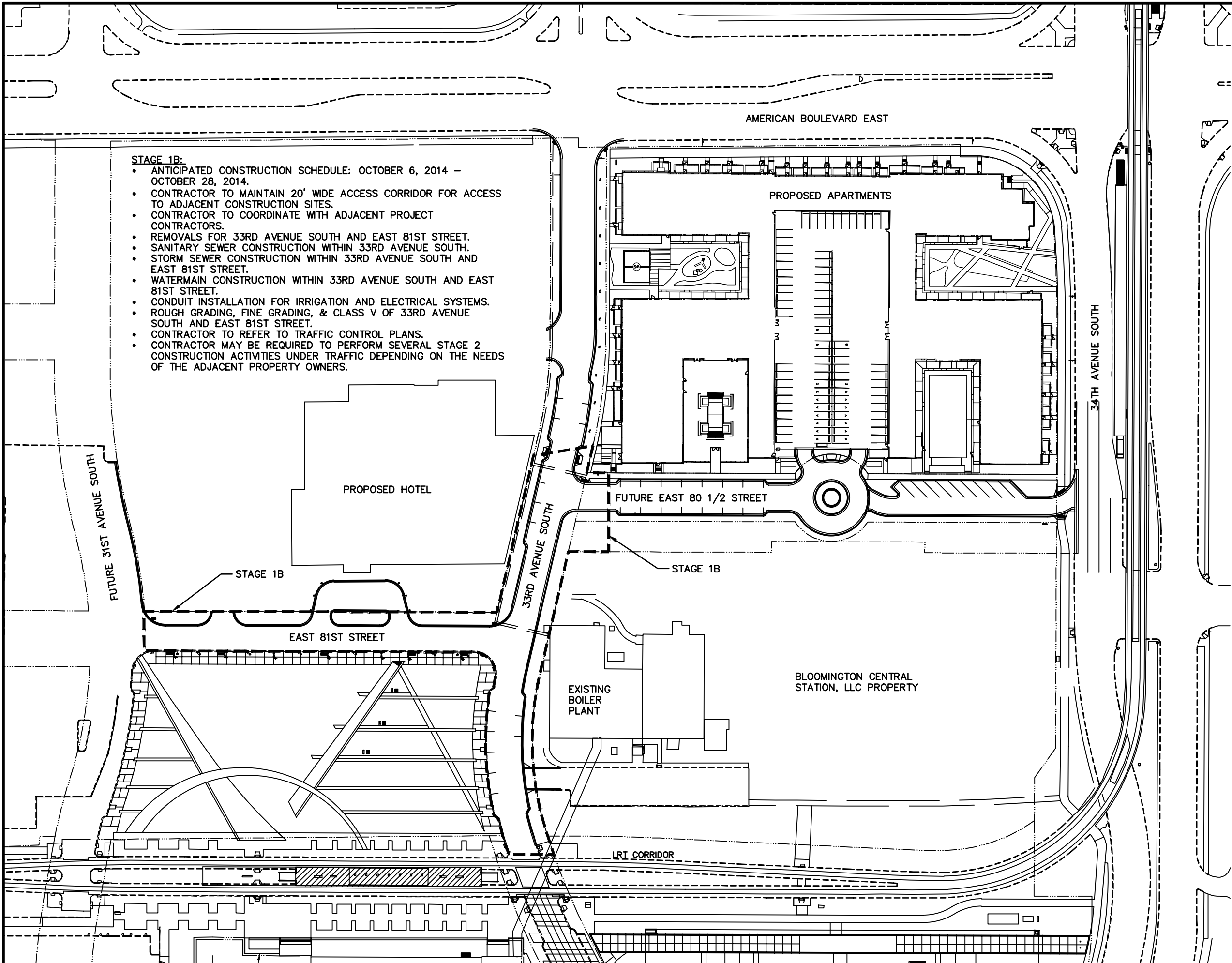
1700 W 30TH ST
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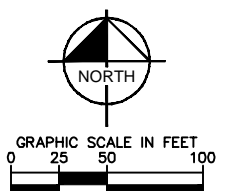
BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
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CONSTRUCTION
STAGING – STAGE 1

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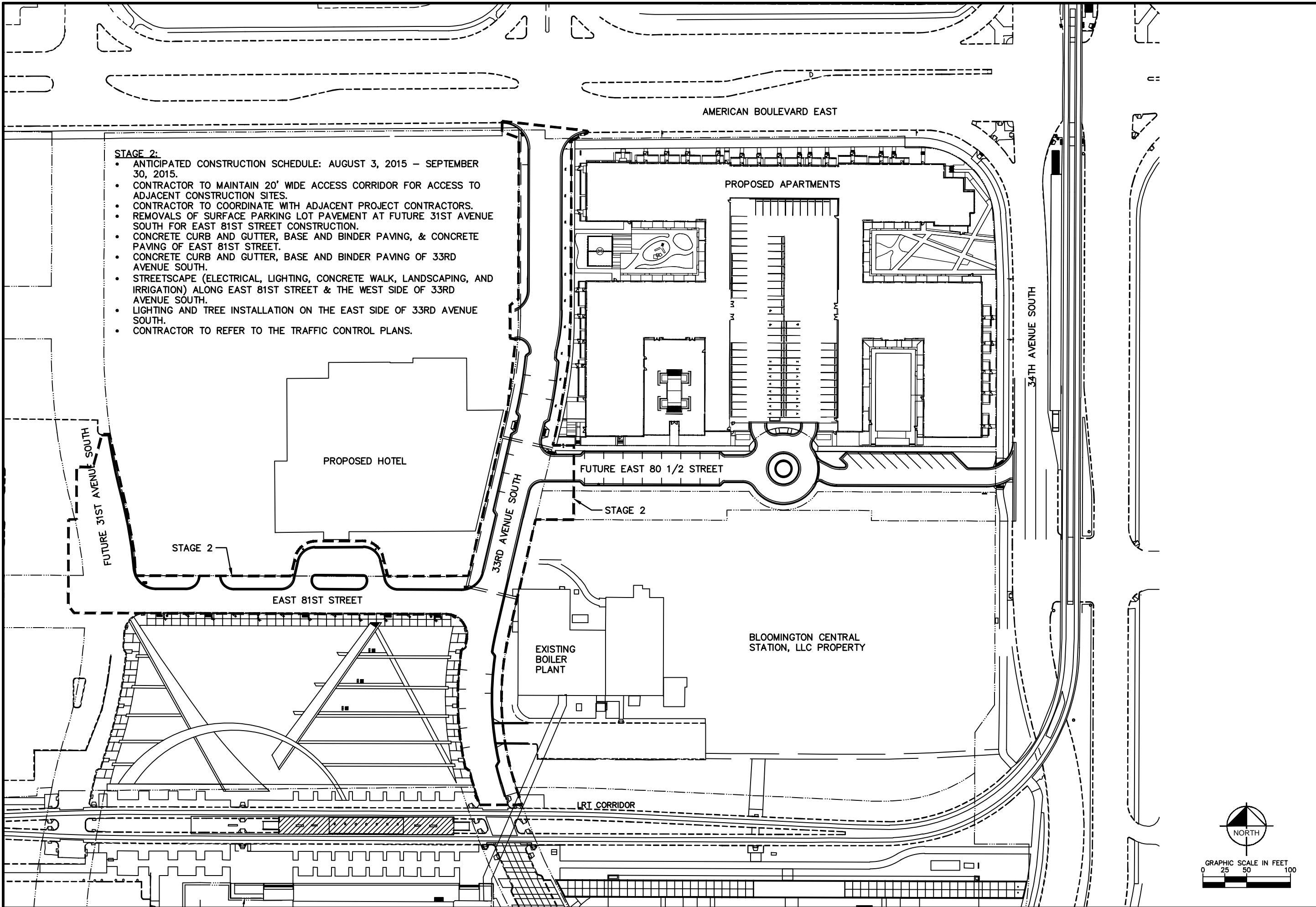


- STAGE 1B:**
- ANTICIPATED CONSTRUCTION SCHEDULE: OCTOBER 6, 2014 – OCTOBER 28, 2014.
 - CONTRACTOR TO MAINTAIN 20' WIDE ACCESS CORRIDOR FOR ACCESS TO ADJACENT CONSTRUCTION SITES.
 - CONTRACTOR TO COORDINATE WITH ADJACENT PROJECT CONTRACTORS.
 - REMOVALS FOR 33RD AVENUE SOUTH AND EAST 81ST STREET.
 - SANITARY SEWER CONSTRUCTION WITHIN 33RD AVENUE SOUTH.
 - STORM SEWER CONSTRUCTION WITHIN 33RD AVENUE SOUTH AND EAST 81ST STREET.
 - WATERMAIN CONSTRUCTION WITHIN 33RD AVENUE SOUTH AND EAST 81ST STREET.
 - CONDUIT INSTALLATION FOR IRRIGATION AND ELECTRICAL SYSTEMS.
 - ROUGH GRADING, FINE GRADING, & CLASS V OF 33RD AVENUE SOUTH AND EAST 81ST STREET.
 - CONTRACTOR TO REFER TO TRAFFIC CONTROL PLANS.
 - CONTRACTOR MAY BE REQUIRED TO PERFORM SEVERAL STAGE 2 CONSTRUCTION ACTIVITIES UNDER TRAFFIC DEPENDING ON THE NEEDS OF THE ADJACENT PROPERTY OWNERS.



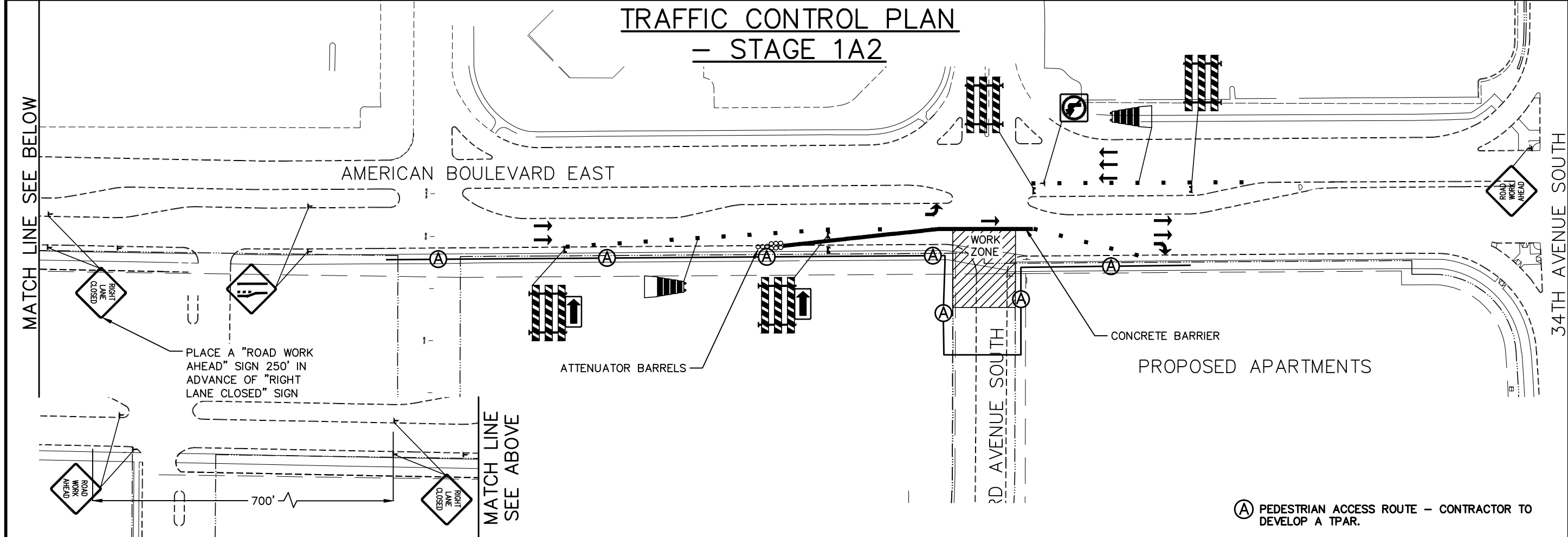
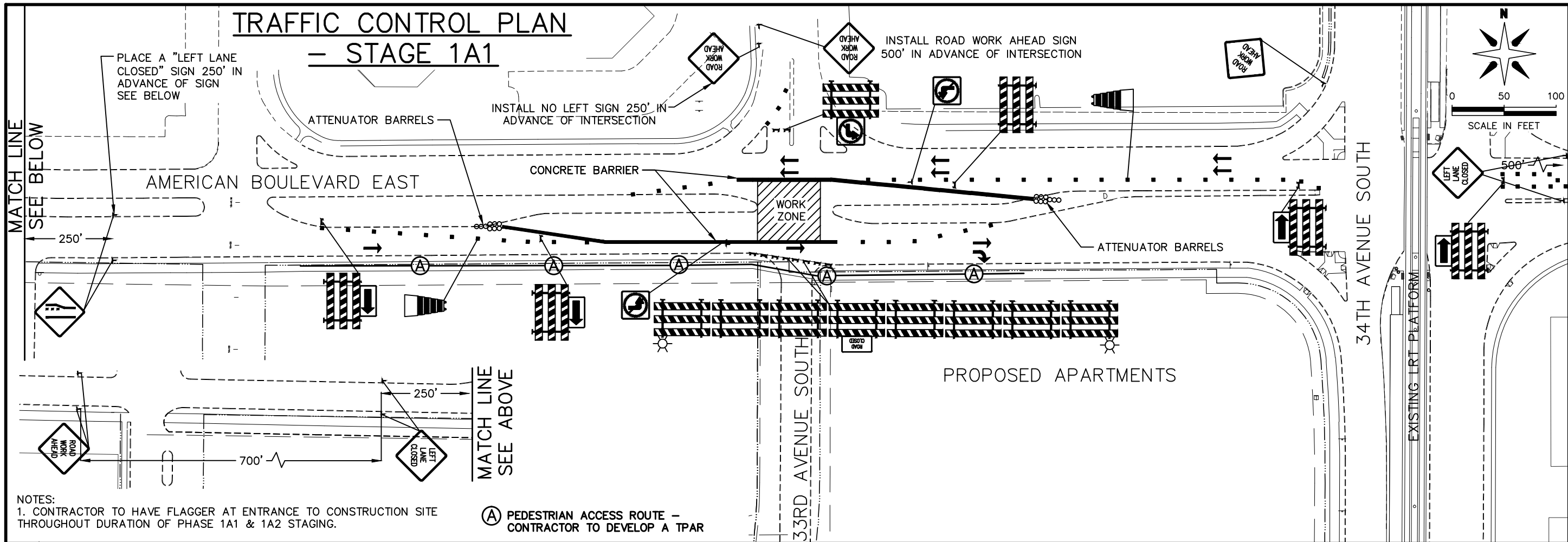
BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT 2013-304		CONSTRUCTION STAGING – STAGE 1B	
 CITY OF BLOOMINGTON MINNESOTA 1700 W 98TH ST. BLOOMINGTON, MN 55431 PHONE (952) 563-8700		 Kimley-Horn and Associates, Inc. 2550 UNIVERSITY AVE. WEST, SUITE 230N ST. PAUL, MINNESOTA 55114 TEL. NO. (651) 645-4187 FAX. NO. (651) 645-5116	
REVISIONS			
DATE	DESCRIPTION	BY	
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CONSTRUCTION STAGING - STAGE 2			
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THOMAS J. LINCOLN		21433	6/10/14
DATE		LIC. #	DATE
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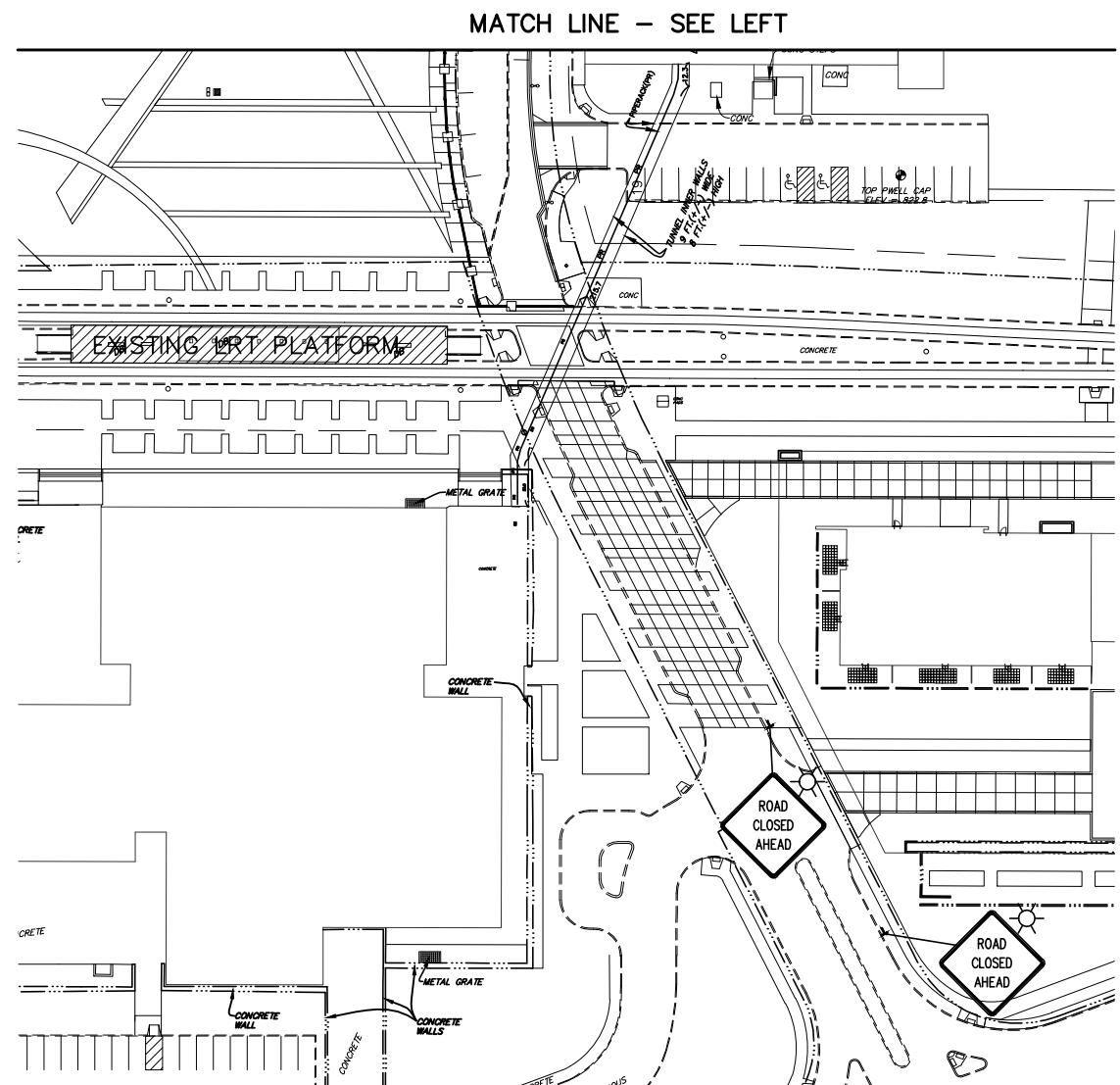
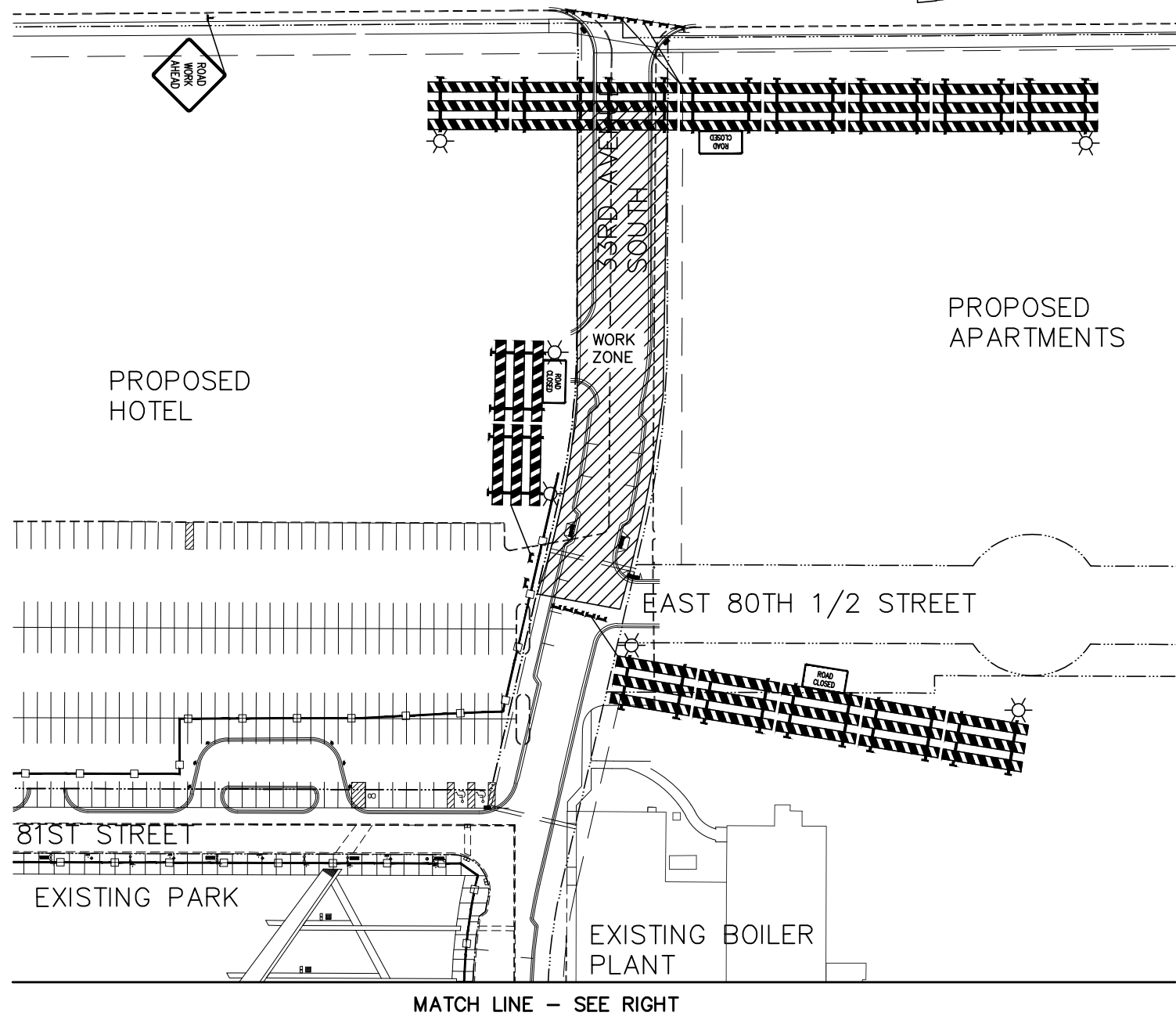
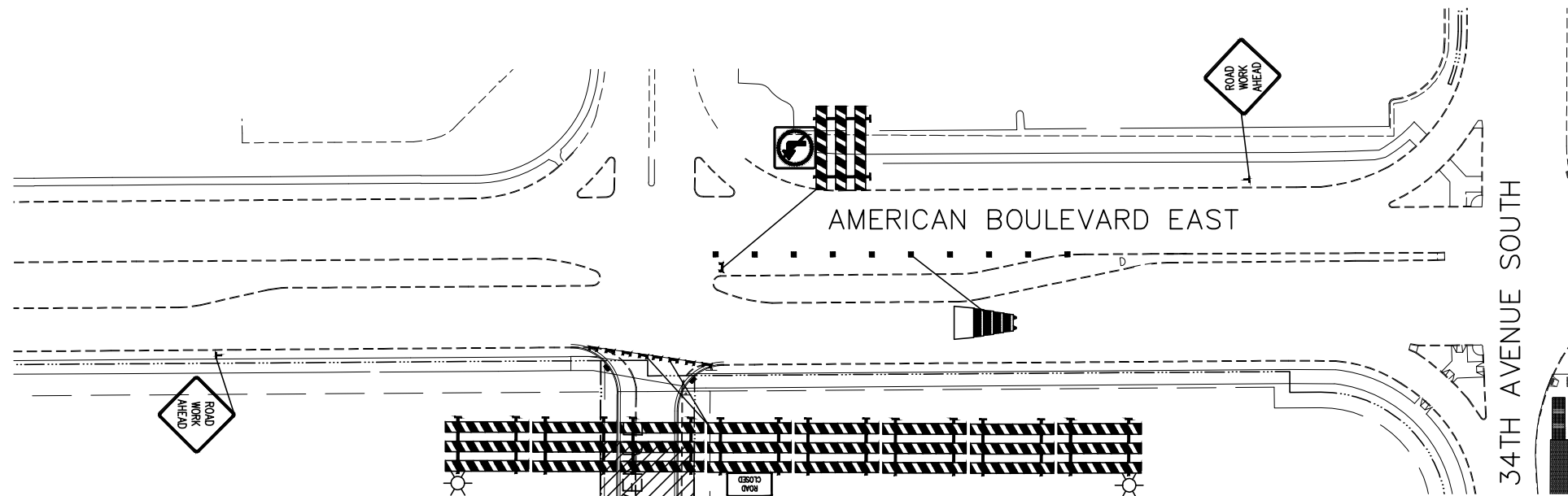
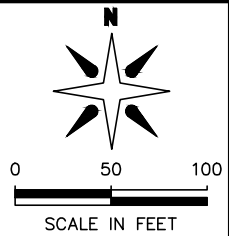
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BOS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT 2013-304		TRAFFIC CONTROL PLAN STAGE 1A1 & 1A2	
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Kimley-Horn and Associates, Inc.		2550 UNIVERSITY AVE. WEST, SUITE 230A ST. PAUL, MINNESOTA 55114 TEL. NO. (651) 644-4197 FAX. NO. (651) 644-5116	
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Thomas J. Lincoln		6/10/14	
21433		LIC. #	
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TRAFFIC CONTROL PLAN - STAGE 1A3



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TRAFFIC CONTROL
PLAN STAGE 1A3

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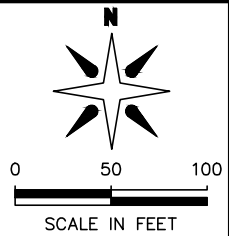
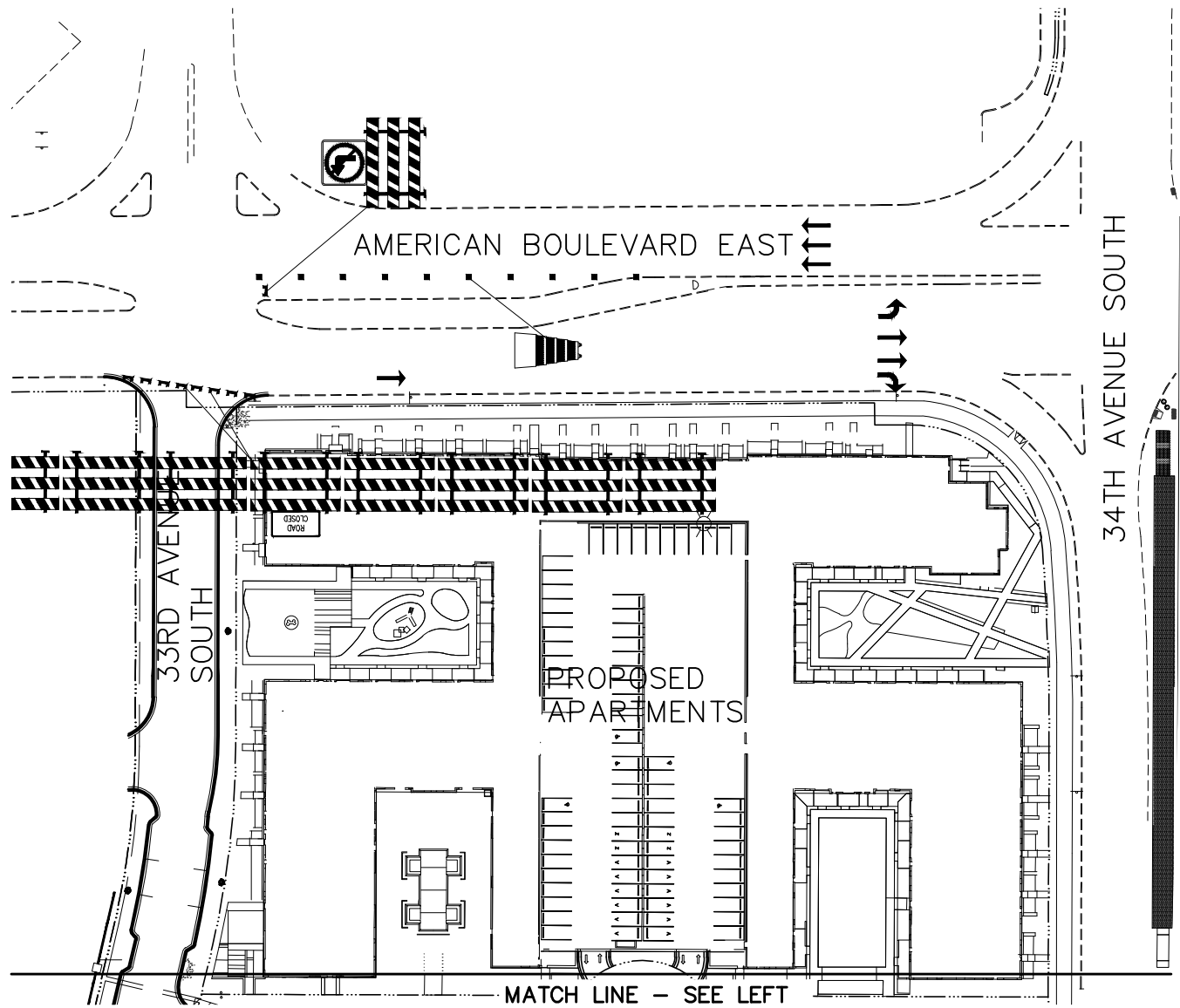
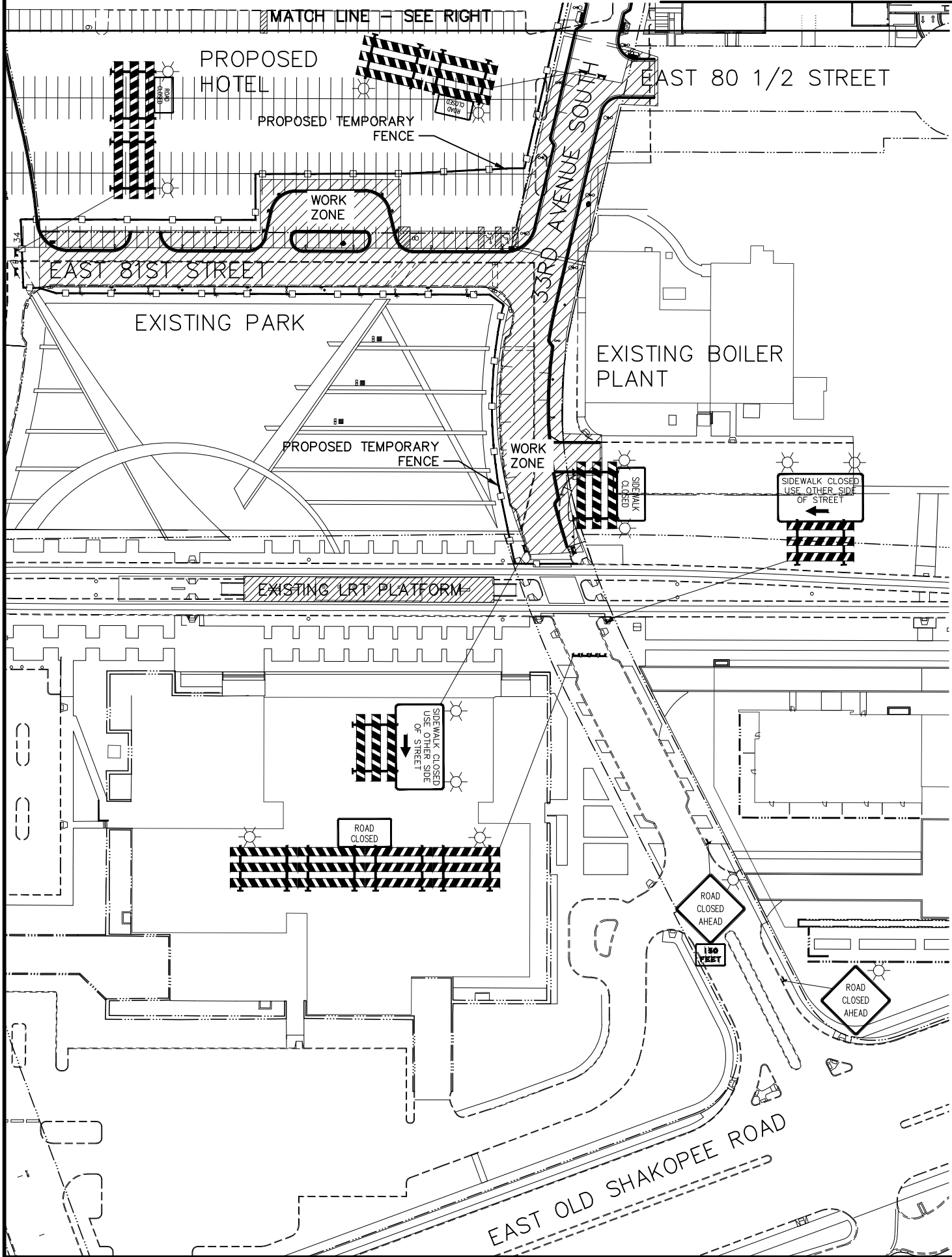
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TRAFFIC CONTROL PLAN STAGE 1B



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CITY PROJECT 2013-304

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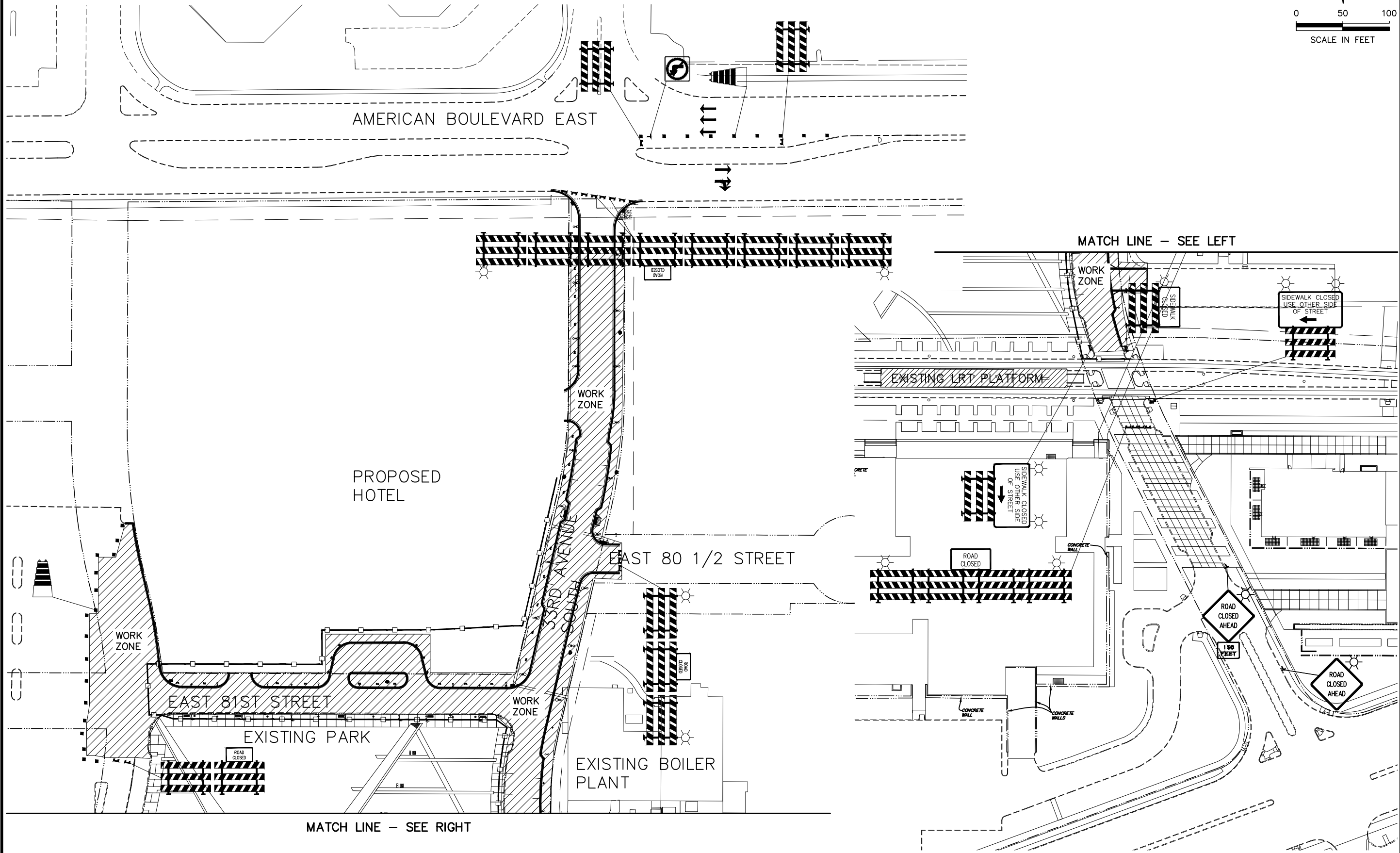
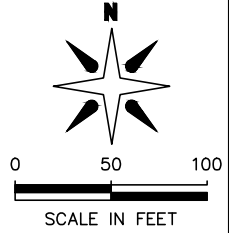
Thomas G. Lincoln
THOMAS G. LINCOLN 21433 6/10/14
LIC. # DATE

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TRAFFIC CONTROL PLAN STAGE
1B

TRAFFIC CONTROL PLAN
- STAGE 2



BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

TRAFFIC CONTROL PLAN
STAGE 2

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (952) 563-8700

CITY OF BLOOMINGTON MINNESOTA

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

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THOMAS G. LINCOLN 21433 6/10/14
LIC. # DATE




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"W" SERIES									
ITEM	SIGN NO.	DESCRIPTION	COLOR	SIZE	STAGE 1A1	STAGE 1A2	STAGE 1A3	STAGE 1B	STAGE 2
	W20-1	ROAD WORK AHEAD	BLACK ON ORANGE	36 x 36	4	2	2	0	0
	W20-3	ROAD CLOSED AHEAD	BLACK ON ORANGE	36 x 36	0	0	2	2	2
	W21-X5L	LEFT LANE CLOSED	BLACK ON ORANGE	36 x 36	2	0	0	0	0
	W21-X5R	RIGHT LANE CLOSED	BLACK ON ORANGE	36 x 36	0	2	0	0	0
	W1-6R	ARROW (RIGHT)	BLACK ON ORANGE	24 X 12	4	0	0	0	0
	W1-6L	ARROW (LEFT)	BLACK ON ORANGE	24 X 12	0	2	0	0	0
	W4-1R	MERGE	BLACK ON ORANGE	36 x 36	0	0	0	0	0
	W4-2L	LANE ENDS	BLACK ON ORANGE	36 x 36	1	1	0	0	0
	R11-2	ROAD CLOSED	BLACK ON WHITE	48 x 30	0	0	3	4	4

"R" SERIES									
ITEM	SIGN NO.	DESCRIPTION	COLOR	SIZE	STAGE 1A1	STAGE 1A2	STAGE 1A3	STAGE 1B	STAGE 2
	R3-1	NO LEFT TURN	BLACK & RED ON WHITE	24 x 24	3	1	1	1	1
	R1-2	YEILD	RED ON WHITE	30 X 30	0	0	0	0	0
	R9-9	SIDEWALK CLOSED	BLACK & RED ON WHITE	30 X 24	0	0	0	1	1
	R9-11BR	SIDEWALK CLOSED USE OTHER SIDE OF STREET	BLACK ON WHITE	24 X 12	0	0	0	1	1
	R9-11BL	SIDEWALK CLOSED USE OTHER SIDE OF STREET	BLACK ON WHITE	24 x 12	0	0	1	1	1

SPECIAL									
ITEM	SIGN NO.	DESCRIPTION	COLOR	SIZE	STAGE 1A1	STAGE 1A2	STAGE 1A3	STAGE 1B	STAGE 2
	SPECIAL	LIGHT			2	0	6	14	14

DEVICES							
ITEM	SIGN NO.	COLOR	STAGE 1A1	STAGE 1A2	STAGE 1A3	STAGE 1B	STAGE 2
	TYPE III BARRICADE	ORANGE ON WHITE	14	4	16	14	22
	DRUM	ORANGE ON WHITE	53	26	10	10	26
	ATTENUATOR BARRELS		2 SETS	1 SETS	0	0	0

CITY OF

BLOOMINGTON

MINNESOTA

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THOMAS J. LINCOLN

21433 6/10/14

LIC. # DATE

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

TRAFFIC CONTROL TABULATION

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TRAFFIC CONTROL NOTES AND GUIDELINES

GENERAL INFORMATION:

1. QUANTITIES PROVIDED ARE APPROXIMATE. TRAFFIC CONTROL BID ITEM IS LUMP SUM. THE LOCATIONS AND QUANTITIES OF TRAFFIC CONTROL DEVICES SHOWN ON THESE PLANS ARE APPROXIMATE, NOT ALL INCLUSIVE, AND ARE SUBJECT TO REVISION BY THE ENGINEER.
2. ALL TRAFFIC CONTROL DEVICES, TEMPORARY LANE CLOSURE ARRANGEMENTS AND PROCEDURES ETC., SHALL CONFORM WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES INCLUDING THE FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.
3. REFLECTORIZED DRUMS USED FOR CHANNELIZATION SHALL HAVE SPACING AS NOTED IN THE PLANS. DRUM LOCATIONS AND SPACINGS SHOWN ON THIS PLAN ARE APPROXIMATE AND ARE SUBJECT TO REVISION BY THE ENGINEER AND TRAFFIC CONTROL SUPERVISOR.
4. THE CONTRACTOR SHALL MAINTAIN A 2 FOOT MINIMUM CLEAR DISTANCE BETWEEN THE EDGE OF THE TRAVEL LANE AND THE NEAREST EDGE OF ANY ADJACENT TRAFFIC CONTROL DEVICE (DRUMS, BARRICADES, BARRIERS, ETC.) UNLESS OTHERWISE NOTED.
5. REMOVE CONFLICTING TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS AS DIRECTED BY ENGINEER.
6. THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN THE DEVICES IN THIS TRAFFIC CONTROL PLAN UNLESS OTHERWISE NOTED.
7. FIELD CONDITIONS MAY REQUIRE MODIFICATIONS OF THE TRAFFIC CONTROL PLAN. ANY MODIFICATIONS SHALL BE APPROVED BY THE ENGINEER IN THE FIELD PRIOR TO CHANGES BEING MADE.
8. ALL DISTANCES ARE APPROXIMATE.
9. ALL TEMPORARY TRAFFIC THRU LANES SHALL BE A MINIMUM OF 11 FEET IN WIDTH UNLESS NOTED OTHERWISE.
10. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ANY WORK AREAS NEAR TRAFFIC IN ACCORDANCE WITH THE MN MUTCD.
11. IF THE CONTRACTOR DECIDES TO PERFORM THE CONSTRUCTION WORK IN A SEQUENCE OTHER THAN SHOWN IN THIS TRAFFIC CONTROL PLAN, THE CONTRACTOR SHALL PROVIDE COMPLETE REVISED TRAFFIC CONTROL PLANS TO BE APPROVED BY THE ENGINEER.
12. SIGN INSTALLATIONS SHALL NOT OBSTRUCT EXISTING SIGNS.
13. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS THAT ARE TO REMAIN OPEN AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER.
14. THE CONTRACTOR SHALL WORK WITH THE POSTAL SERVICE TO ESTABLISH A PLAN FOR THE MAINTENANCE OF MAIL DELIVERY DURING CONSTRUCTION. ANY COSTS TO ESTABLISH TEMPORARY MAILBOXES SHALL BE INCIDENTAL TO THE PROJECT CONSTRUCTION.
15. THE TRAFFIC CONTROL AND STAGING PLANS DEPICT A GENERAL PLAN FOR MAINTAINING TRAFFIC. ADDITIONAL TRAFFIC CONTROL WILL BE REQUIRED TO COMPLETE SPECIFIC PORTIONS OF THE PROJECT. ADDITIONAL TRAFFIC CONTROL REQUIRED BY THE PROJECT, BUT NOT DEPICTED ON THESE PLANS, SHALL BE INCIDENTAL TO THE LUMP SUM BID ITEM.
16. THE CONTRACTOR SHALL PROVIDE CHANNELIZING DEVICES (AND SIGNING IF APPROVED BY THE ENGINEER) AT ALL PRIVATE ENTRANCE LOCATIONS WHERE NEEDED TO SAFELY GUIDE TRAFFIC TO AND FROM THE TRAVEL CORRIDOR TO THE SATISFACTION OF THE ENGINEER.
17. THE CONTRACTOR SHALL PROVIDE QUALIFIED FLAGGERS WITH TWO-WAY RADIOS AT ALL TIMES WHEN CONTRACTOR OPERATIONS REQUIRE ONE-LANE-TWO-WAY OPERATION OR WHEN IN THE OPINION OF THE ENGINEER, ONE-LANE-TWO-WAY OPERATIONS ARE APPROPRIATE DUE TO SAFETY CONCERNS FROM OPEN EXCAVATIONS, ADJACENT EQUIPMENT, ETC.
18. IN ALL WORK AREAS CONSTRUCTED UNDER TRAFFIC THE CONTRACTOR SHALL PROTECT THESE AREAS AT ALL TIMES TO PROVIDE FORSAFE TRAFFIC MOVEMENT TO THE SATISFACTION OF THE ENGINEER.
19. MISCELLANEOUS CONSTRUCTION ACTIVITIES WHICH TAKE PLACE OUT OF SEQUENCE WITH THE STAGING PLAN SHALL HAVE TRAFFIC CONTROL WHICH ADHERES TO TEMPORARY LANE CLOSURE GUIDELINES AND REQUIREMENTS FOR STATIONARY TRAFFIC CONTROL AS SHOWN IN THE MN MUTCD, SECTION 6.
20. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO OPEN SIDE STREETS AND OTHER PROTIONS OF THE ROADWAY EARLY, AS CONSTRUCTION ALLOWS.
21. THE ACTUAL NUMBER OF BARRICADES AT EACH LOCATION REQUIRED MAY VARY DEPENDING UPON THE SIZE OF THE BARRICADES USED, THE WIDTH OF THE ROAD CLOSURE AND THE MOVEMENT OF LOCAL CONSTRUCTION TRAFFIC.
22. THE CONTRACTOR SHALL MAINTAIN LOCAL ACCESS TO ABUTTING PROPERTY AT ALL TIMES. SEE SPECIAL PROVISIONS FOR DETAILS.
23. THE CONTRACTOR SHALL PERFORM MAINTENANCE OF AGGREGATE SURFACING IN AREAS INDICATED BY THE ENGINEER WITHIN 24 HOURS OF REQUEST. (INCIDENTAL)

WINTER TRAFFIC CONTROL

1. ALL TEMPORARY TRAFFIC CONTROL DEVICES DEEMED UNNECESSARY BY THE ENGINEER, SHALL BE REMOVED FROM THE PROJECT LIMITS OR STORED IN THE CONTRACTOR'S STAGING AREA.
2. AN ANNUAL FALL REVIEW OF ALL TRAFFIC CONTROL ITEMS BY THE CONTRACTOR AND CITY WILL BE MADE TO PREPARE FOR WINTER MAINTENANCE OF THE PROJECT. THIS MAY INCLUDE ADJUSTMENTS OR EXCHANGE OF ONE TRAFFIC CONTROL DEVICE FOR ANOTHER. READJUSTMENTS MAY AGAIN BE REQUIRED DURING WINTER AND IN THE SPRING.

SIGNING:

1. ALL TRAFFIC CONTROL DEVICES, INCLUDING OVERHEAD SIGNS ON ROADS OPEN TO TRAFFIC THAT ARE NOT CONSISTENT WITH TRAFFIC OPERATION SHALL BE COVERED, REMOVED OR REVISED AS DIRECTED BY THE ENGINEER.
2. WHEN SIGNS ARE INSTALLED, THEY SHALL BE MOUNTED ON POSTS DRIVEN INTO THE GROUND AT THE PROPER HEIGHT AND LATERAL OFFSET AS DETAILED IN THE MN MUTCD. IF THIS IS NOT POSSIBLE, THEY WILL BE MOUNTED ON PORTABLE SUPPORTS AS APPROVED BY THE ENGINEER. WHEN THE SIGNS ARE REMOVED, THE SIGN POSTS SHALL BE REMOVED AS SOON AS POSSIBLE.
3. ALL ORANGE SIGNS SHALL BE MADE OF HIGH PERFORMANCE SIGN SHEETING OR AN APPROVED SUBSTITUTE.
4. LONGITUDINAL DROPOFFS SHALL BE SIGNED AS SHOWN IN THE JANUARY 2014 MNDOT "TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS" FIELD MANUAL, FIGURES 6K-3, 6K-4, & 6K-5 UNLESS OTHERWISE SPECIFIED IN THESE PLANS.
5. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE FINAL SIGNS TO ASSURE THAT THE FINAL SIGNS ARE INSTALLED AS NEEDED, OR PROVIDE TEMPORARY SIGNING AT THEIR EXPENSE UNTIL THE FINAL SIGNING IS INSTALLED.
6. THESE TRAFFIC CONTROL LAYOUTS DO NOT SHOW ALL EXISTING SIGNING. CONTRACTOR SHALL RELOCATE ALL APPROPRIATE EXISTING SIGNING TO MAINTAIN PROPER SIGN VISIBILITY DURING CONSTRUCTION AS DEEMED NECESSARY BY THE ENGINEER.
7. THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, SALVAGE AND REMOVE, AS APPROPRIATE, ALL SIGNS, PAVEMENT MARKINGS, AND DEVICES SHOWN ON THESE PLANS TO THE SATISFACTION OF THE ENGINEER.
8. ALL SIGNS AND TRAFFIC CONTROL ITEMS SHALL BE LIKE NEW AND REFECT UNIFORMLY AT NIGHT.
9. SPACING OF SIGNS AND TRAFFIC CONTROL DEVICES MAY BE ADJUSTED AS APPROVED BY THE ENGINEER.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY EXTRA SIGNING NEEDED TO FACILITATE TRAFFIC SWITCHES OR FOR TRANSITIONING TRAFFIC FROM ONE STAGE TO ANOTHER.

PAVEMENT MARKING:

1. OBLITERATE ANY CONFLICTING PAVEMENT MARKINGS AS DIRECTED BY THE ENGINEER.
2. POLYMER LANE TAPE IS AN ACCEPTABLE TEMPORARY STRIPING ALTERNATE ACCORDING TP ACTUAL CONDITIONS ENCOUNTERED AS DIRECTED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND COORDINATION OF THE INSTALLATION OF TEMPORARY AND FINAL STRIPING TO ASSURE THAT THE MARKINGS ARE INSTALLED AS NEEDED. BLOOMINGTON TRAFFIC PERSONNEL WILL ASSIST IN THE GENERAL SPOTTING OF TRANSITION AREA, GORES AND TAPERS AS INDICATED IN THE SPECIFICATIONS.

BARRIER & DELINEATION:

1. TOP MOUNTED BARRIER DELINEATORS SHALL HAVE A MINIMUM OF 24 SQ. IN. OF REFLECTIVE SURFACE AREA AND ARE PLACED AT 30' SPACES ON TOP OF THE BARRIER WHEN THE BARRIER IS WITHIN 10' OF TRAFFIC UNLESS OTHERWISE NOTED OR AS DEEMED UNNECESSARY BY THE ENGINEER. IF THE TRAFFIC ENGINEER REQUIRES SIDE MOUNTED BARRIER DELINEATORS, THEY SHALL HAVE A MINIMUM OF 12 SQ. IN. OF REFLECTIVE SURFACE AREA AND BE PLACED AT 30 FT SPACES. IF A SMALLER APPROVED BARRIER DELINEATOR IS USED IT SHALL BE AT ONE HALF THE SPACING. BARRIER DELINEATOR, IF REQUIRED, ARE INCIDENTAL.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY PRECAST CONCRETE BARRIER WITH APPROPRIATE IMPACT ATTENUATORS OR WATER FILLED BARRIER TO PROTECT TRAFFIC FROM OPEN EXCAVATIONS WHEREVER ALLOWABLE LONGITUDINAL DROP-OFFS PER THE FIELD MANUAL ARE EXCEEDED.
3. THE CONTRACTOR SHALL DETERMINE THE NEED FOR BARRIER BASED ON THEIR CONSTRUCTION MEANS AND METHODS. TEMPORARY BARRIER NOT SPECIFICALLY SHOWN IN THE PLANS, BUT DETERMINED AS NECESSARY FOR CONSTRUCTION BY THE CONTRACTOR SHALL BE INCIDENTAL.
4. ONCE THE EXCAVTIONS ARE BACKFILLED AND THE DRIVING SURFACE ADEQUATELY RESTORED, TEMPORARY BARRIER SHALL BE REMOVED.
5. ANY TEMPORARY PORTABLE CONCRETE BARRIER USED ON THIS PROJECT SHALL BE PLACED AS DETAILED IN THE MN MUTCD FIGURE 6F-9. SEE STAGING AND TRAFFIC CONTROL PLANS FOR DESIGN SPEED ON IMPACT ATTENUATOR TO BE USED. TRAFFIC BARRIER SHALL HAVE A BARRIER DELINEATORS SPACED AT 30 FT. WITH A MINIMUM AREA OF 24 SQ. IN.



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THOMAS G. LINCOLN 21433 6/10/14
LIC. # DATE

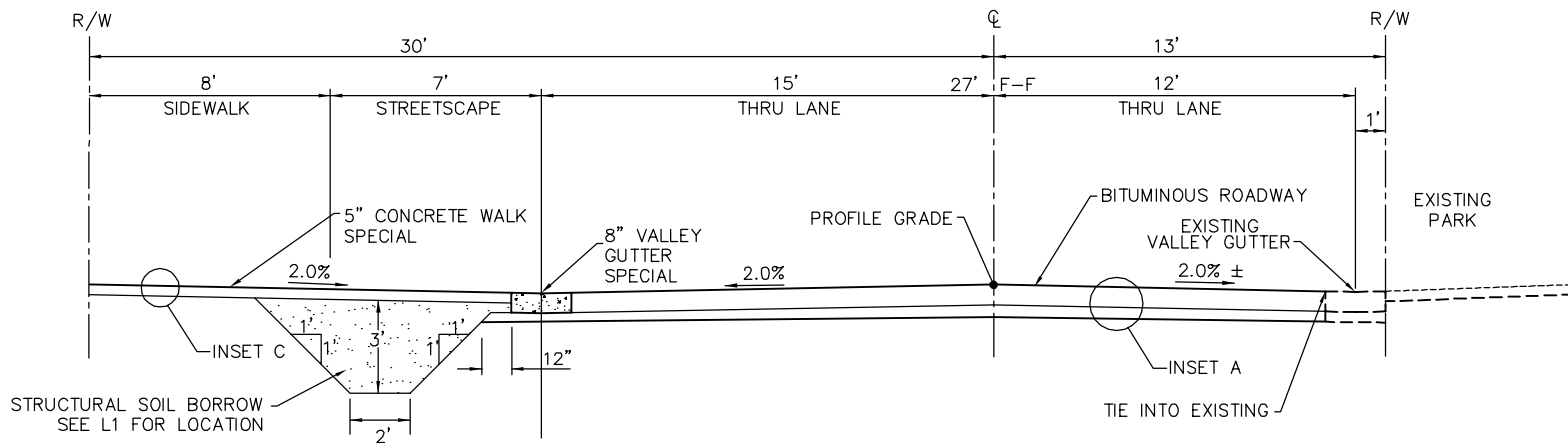
DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
14 OF 83

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

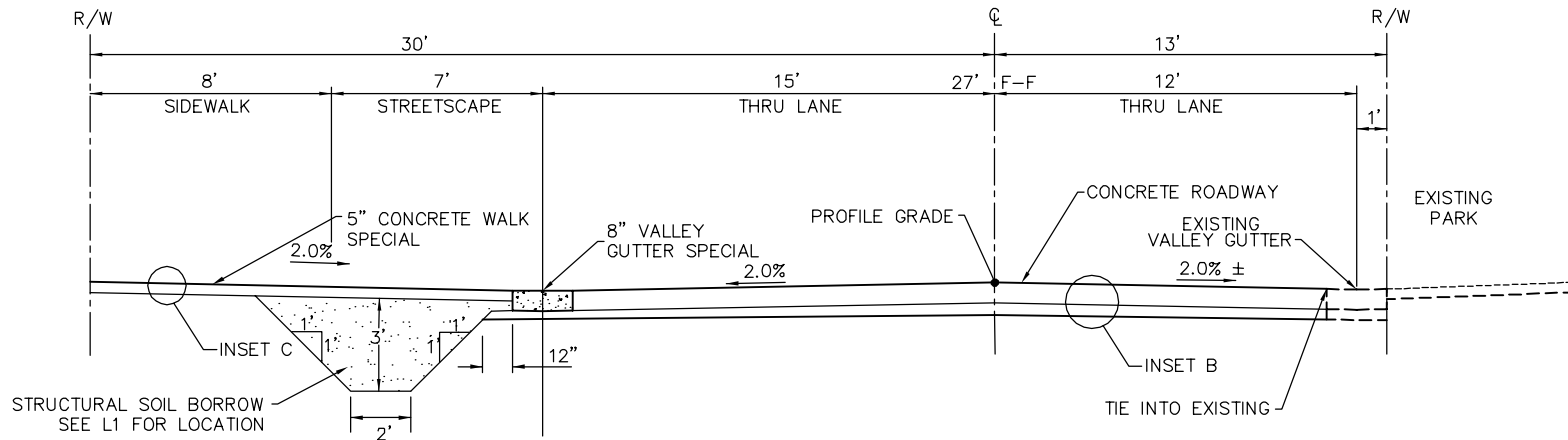
TRAFFIC CONTROL NOTES

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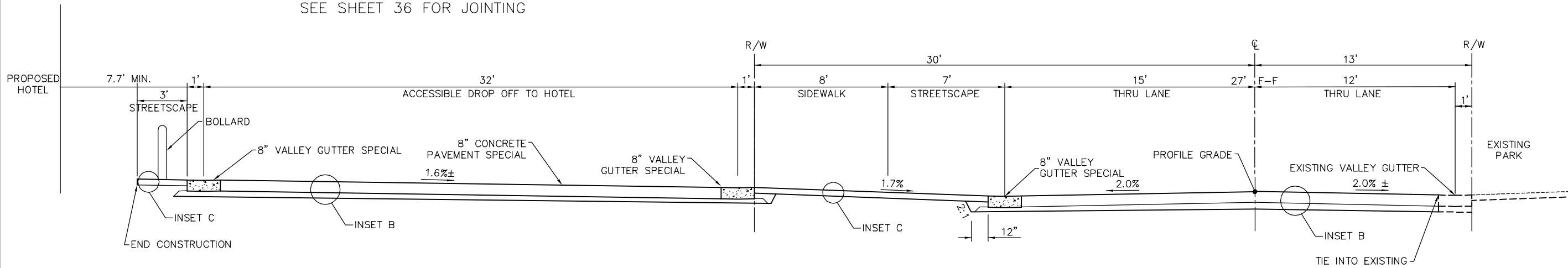
EAST 81ST STREET-27 FT ROADWAY

2 LANES NO PARKING
14+99.68 - 16+26.84
17+80.98 - 18+48.83



EAST 81ST STREET-27 FT ROADWAY

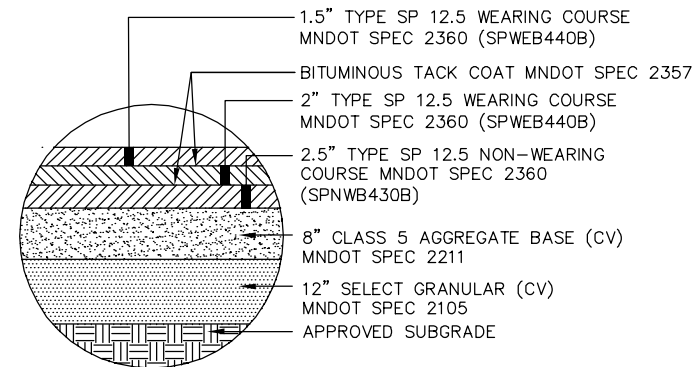
2 LANES NO PARKING
16+26.84 - 17+80.98
SEE SHEET 36 FOR JOINTING



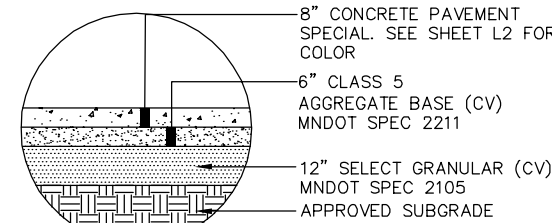
EAST 81ST STREET-HOTEL ACCESSIBLE DROP OFF

2 LANES NO PARKING
16+83.73 - 17+35.16
SEE SHEET 36 FOR JOINTING

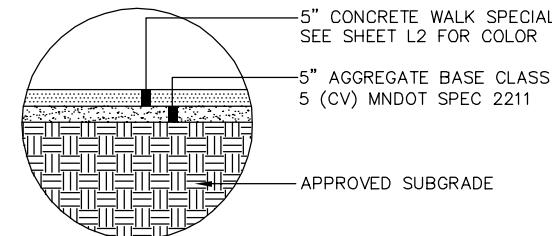
- NOTE:
1. REFERENCE SHEETS L8 - L10 FOR PLANTING DETAILS.
 2. SEE SHEET L2 FOR 8" VALLEY GUTTER SPECIAL COLOR.



INSET A



INSET B



INSET C

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

EAST 81ST STREET TYPICAL
SECTIONS

FROM STA. 15+00 TO STA. 18+50

1700 W. 10TH ST.
BLOOMINGTON, MN 55431
PHONE (612) 882-8700

Kimley-Horn
and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (612) 445-4497
FAX. NO. (612) 445-5116

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

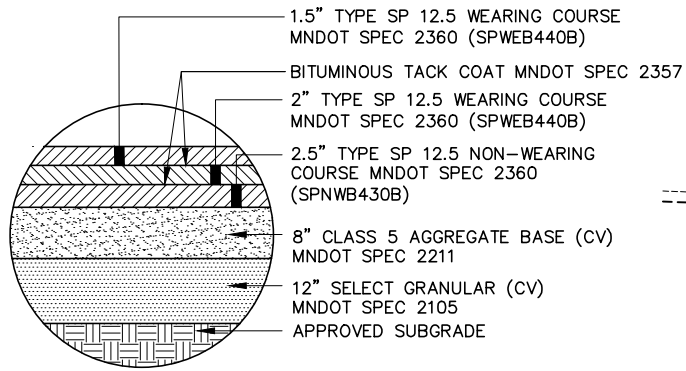
I HEREBY CERTIFY THAT THIS PLAN WAS
PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A LICENSED
LICENSED PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

THOMAS J. LINCOLN 21433 6/10/14
DATE

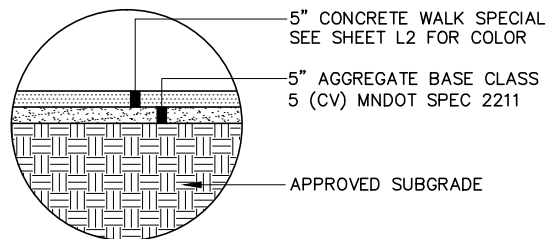
DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
15 OF 83

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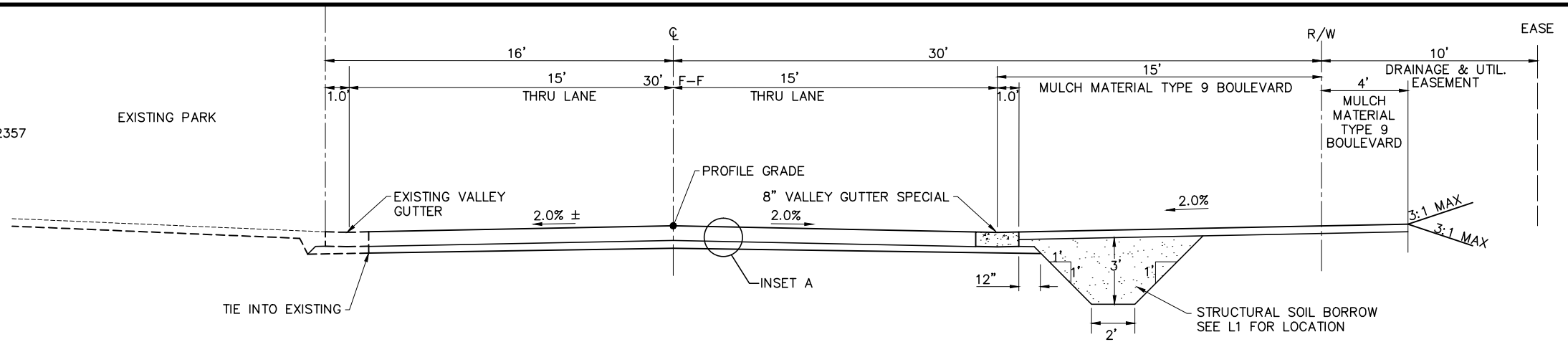


INSET A



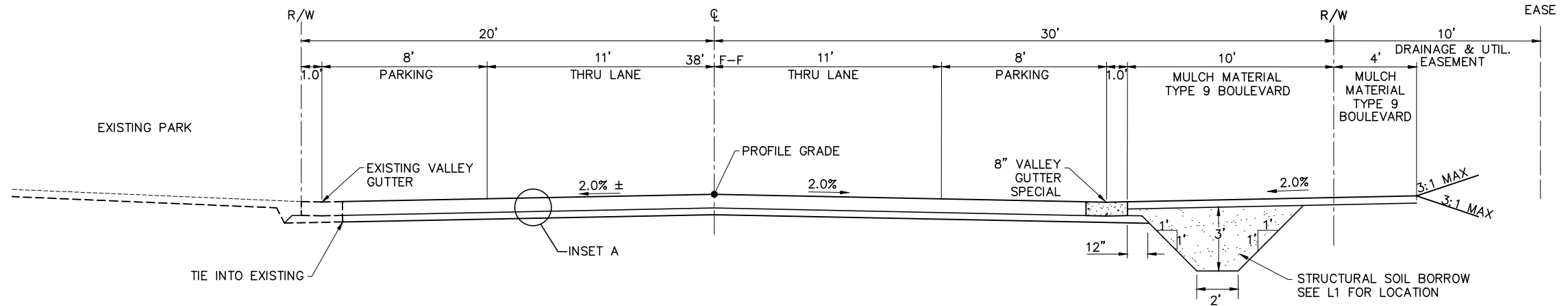
INSET C

- NOTE:
1. REFERENCE SHEETS L8 - L10 FOR PLANTING DETAILS.
 2. SEE SHEET L3 FOR 8" VALLEY GUTTER SPECIAL AND D418 CURB AND GUTTER COLOR.



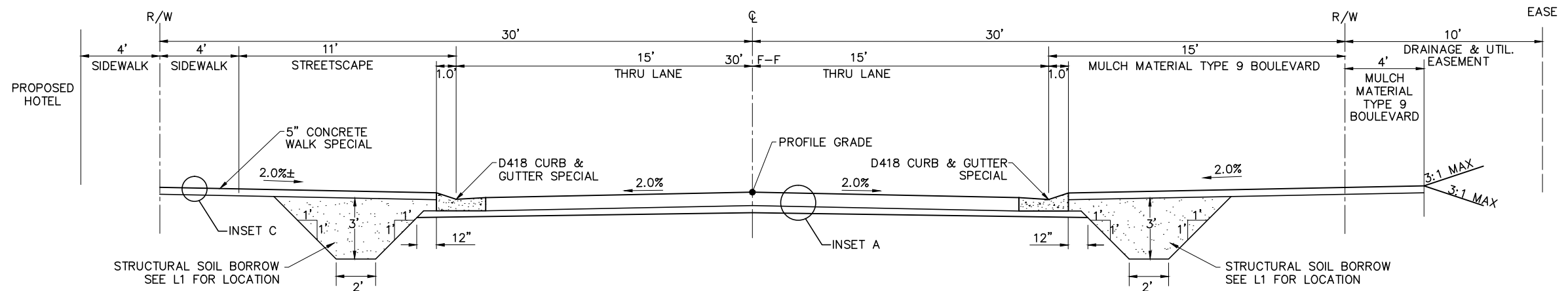
33RD AVENUE SOUTH-30 FT ROADWAY

2 LANES NO PARKING
5+24.57 - 5+66.54



33RD AVENUE SOUTH-38 FT ROADWAY

2 LANES WITH PARKING
5+72.47 - 6+99.29



33RD AVENUE SOUTH-30 FT ROADWAY

2 LANES NO PARKING
7+96.11 - 8+58.22

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

33RD AVENUE SOUTH TYPICAL
SECTIONS

FROM STA. 5+24 TO STA. 8+58

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700



Kimley-Horn
and Associates, Inc.

2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

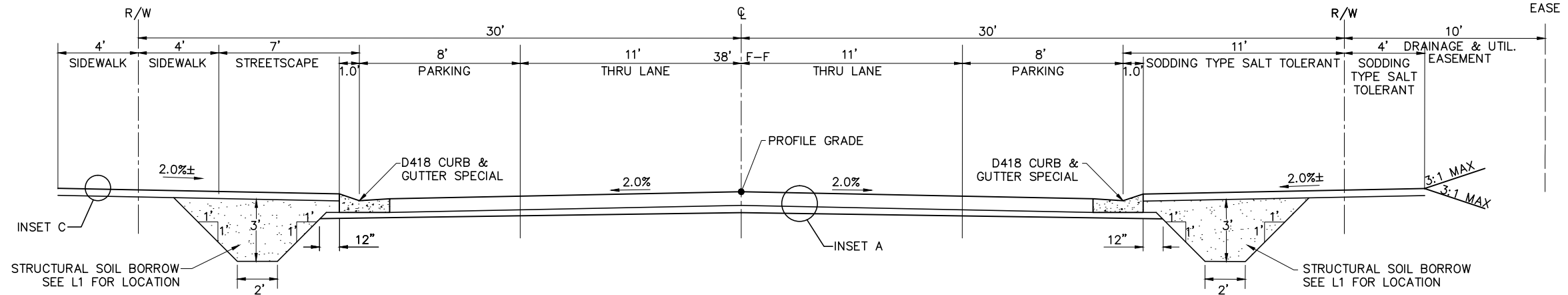
I HEREBY CERTIFY THAT THIS PLAN WAS
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SUPERVISION AND THAT I AM A LICENSED
PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

THOMAS G. LINCOLN
21433
6/10/14
DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

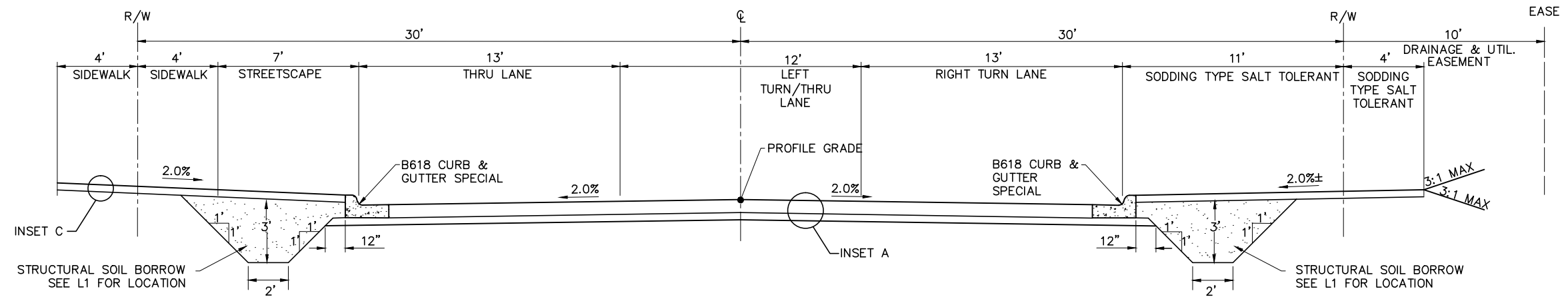
SHEET:
16 OF 83

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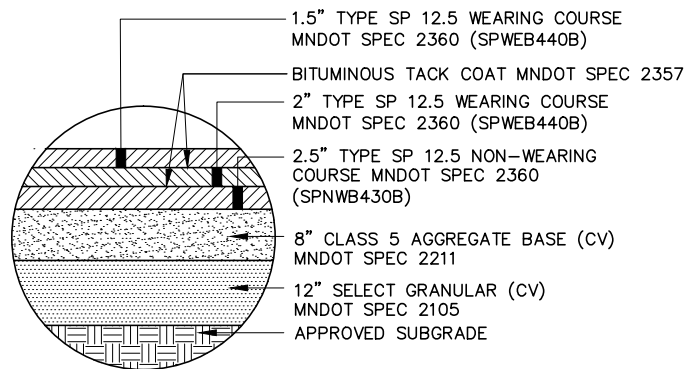
33RD AVENUE SOUTH-38 FT ROADWAY

2 LANES WITH PARKING
STATION 9+79.10 - 10+42.66

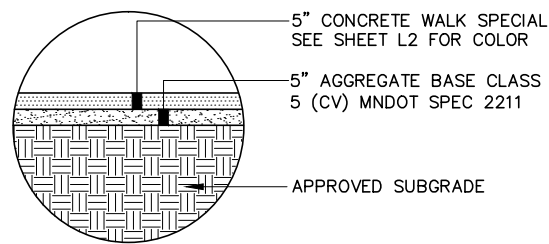


33RD AVENUE SOUTH-38 FT ROADWAY

2 LANES NO PARKING
STATION 11+41.31 - 12+73.99



INSET A



INSET C

- NOTE:
1. REFERENCE SHEETS L8 - L10 FOR PLANTING DETAILS.
 2. SEE SHEET L4 FOR D418 AND B618 CURB AND GUTTER COLOR.



REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

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THOMAS G. LINCOLN 21433 6/10/14 DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

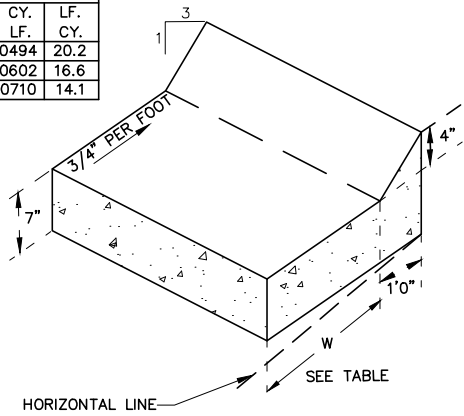
SHEET:
17 OF 83

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

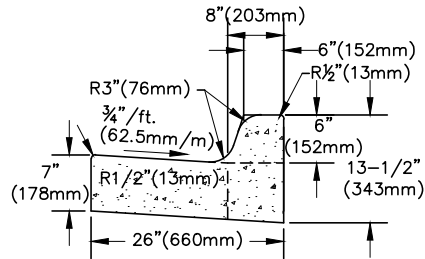
33RD AVENUE SOUTH TYPICAL
SECTIONS
FROM STA. 9+79 TO STA. 12+74

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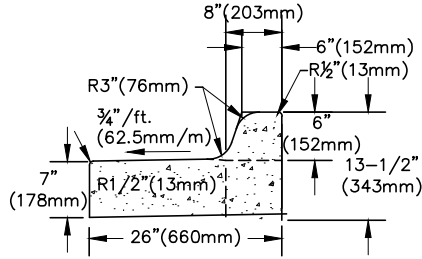
D	GUTTER	CONCRETE
DESIGN NO.	WIDTH W	CY. LF. CY.
D412	12"	.0494 20.2
D418	18"	.0602 16.6
D424	24"	.0710 14.1



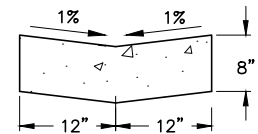
DESIGN D CURB AND GUTTER
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



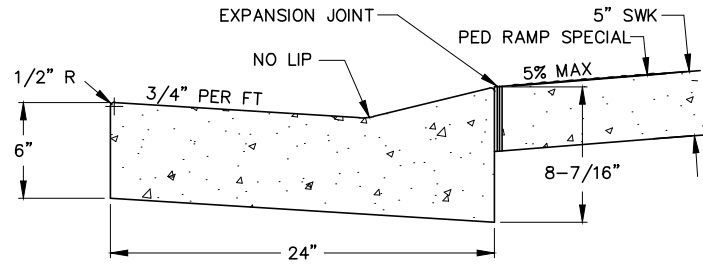
B618 STANDARD CURB & GUTTER
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



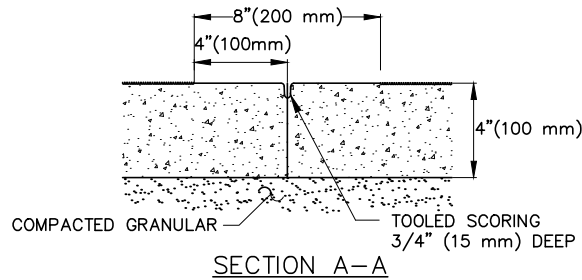
B618 OUTPUT CURB & GUTTER
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



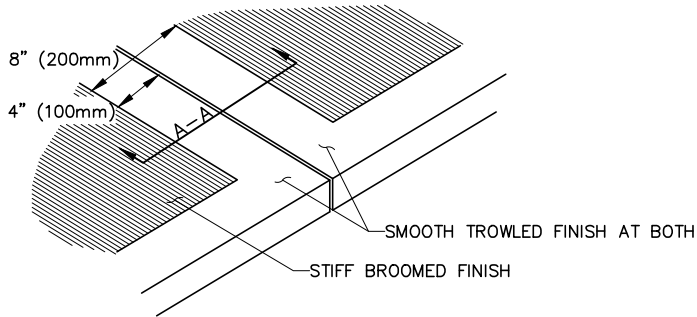
8" VALLEY GUTTER
KHA DETAIL NOT TO SCALE



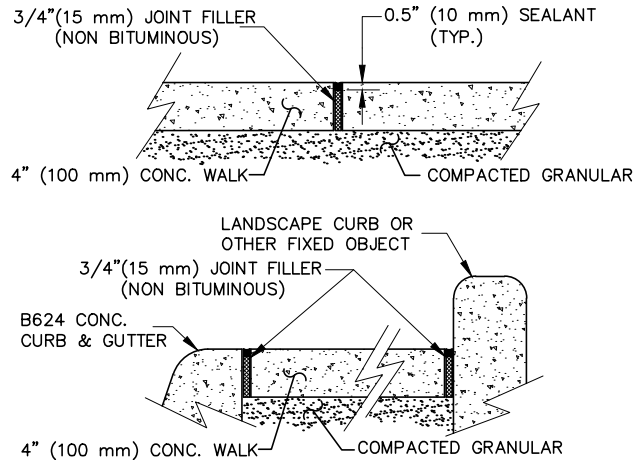
STANDARD SIDEWALK RAMP
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



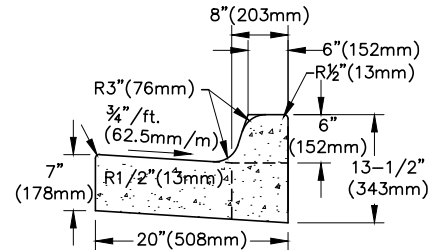
SECTION A-A



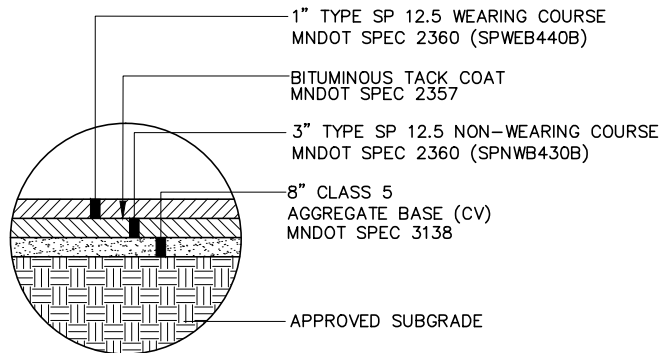
TOOLED JOINT DETAIL
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



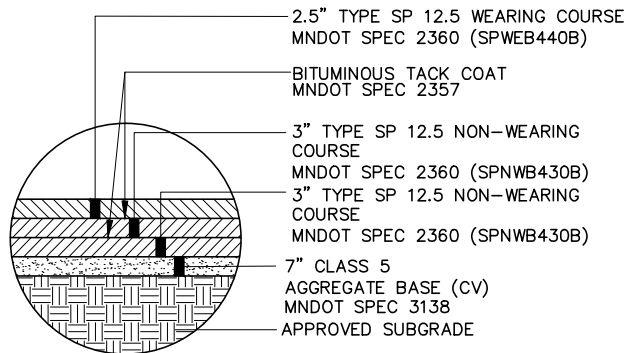
EXPANSION JOINT DETAIL
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



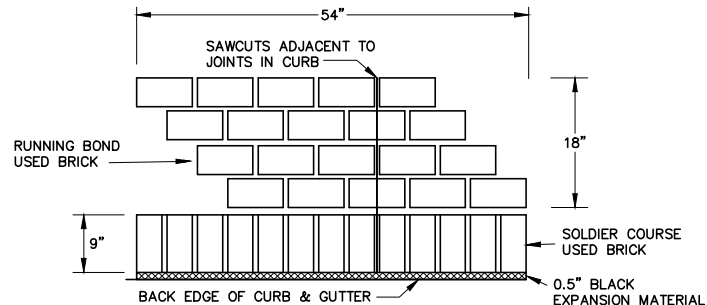
B612 STANDARD CURB & GUTTER
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



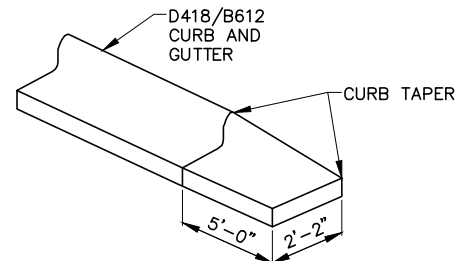
TEMPORARY PARKING INSET
KHA DETAIL NOT TO SCALE



AMERICAN BOULEVARD INSET
KHA DETAIL NOT TO SCALE



PATTERNS FOR SPECIAL TOOLS
FOR 4" CONC. WALK SPECIAL TYPE 2
SPWALK.dwg 3/2013



CURB TAPER
KHA DETAIL NOT TO SCALE

NOTE:
CURB TAPER TO BE CONSTRUCTED AT ENDS OF ALL CURB AND GUTTER THAT DO NOT CONNECT TO INPLACE CURBS. CONSTRUCT TAPERS BEYOND END OF CURB RETURN RADIUS AT STREET INTERSECTIONS. COST OF TAPER TO BE INCIDENTAL TO CURB AND GUTTER.

CITY OF BLOOMINGTON MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

REVISIONS

DATE DESCRIPTION BY

06/10/2014 ISSUED FOR BID TJL

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DATE 6/10/14
LIC. # 21433
THOMAS J. LINCOLN

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
18 OF 83

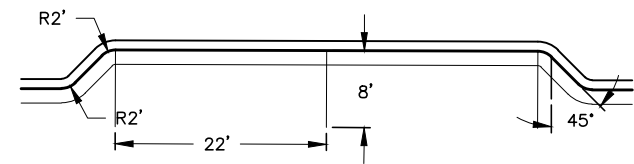
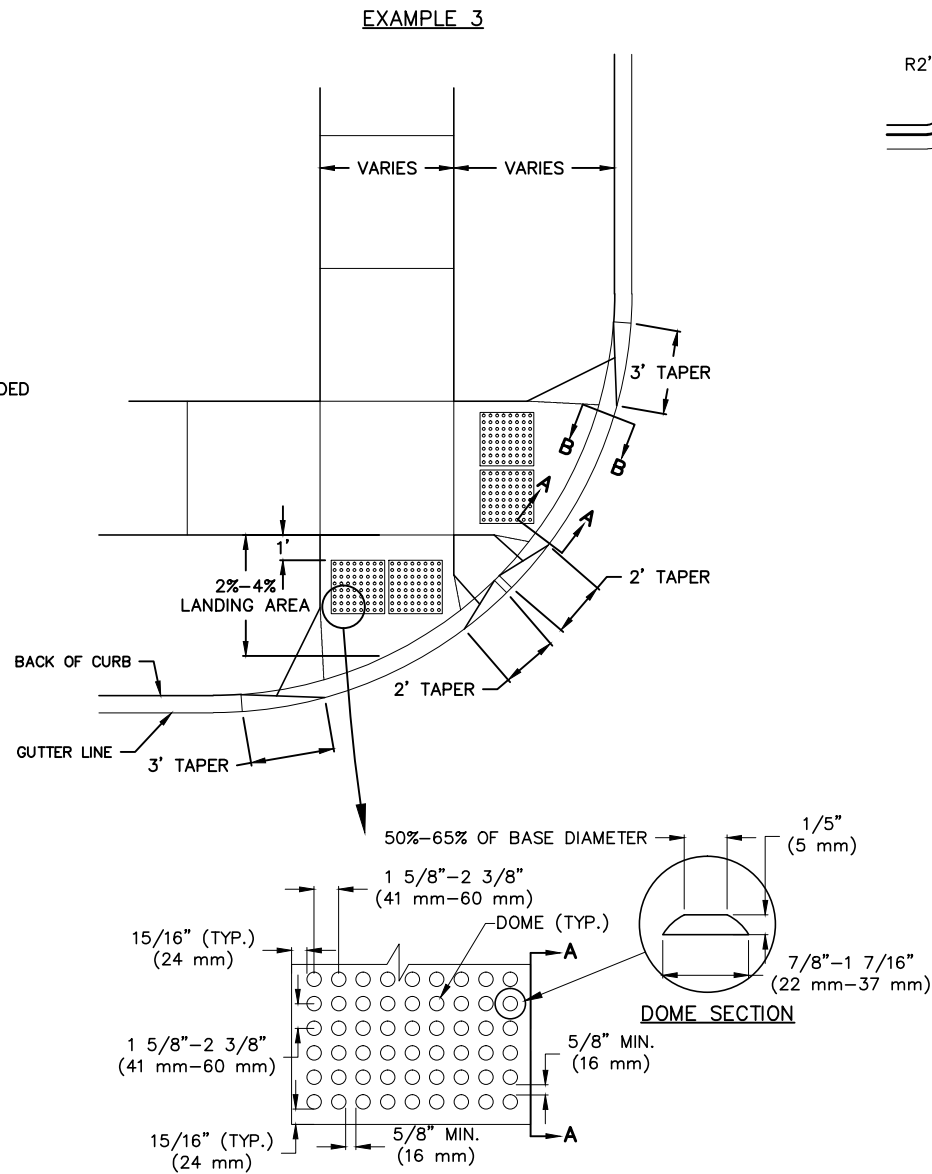
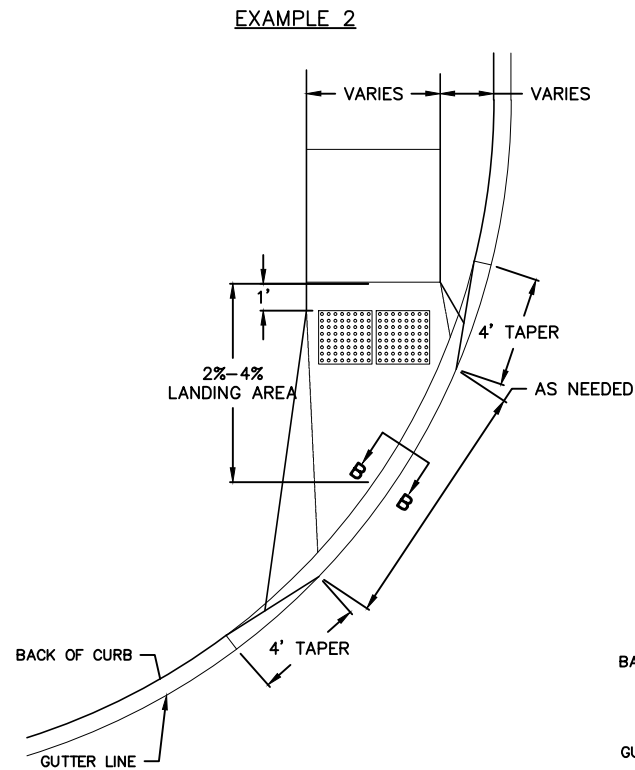
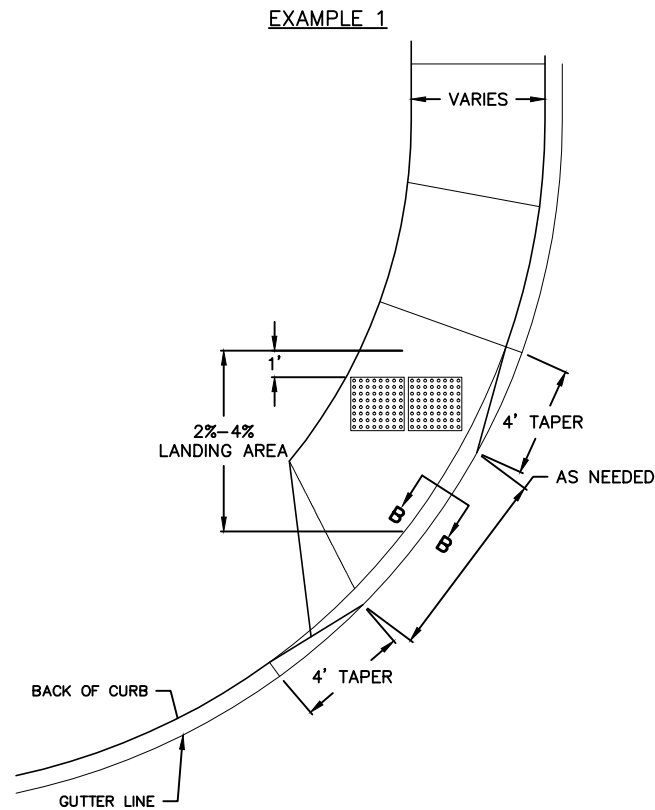
Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

CONSTRUCTION DETAILS
STREET

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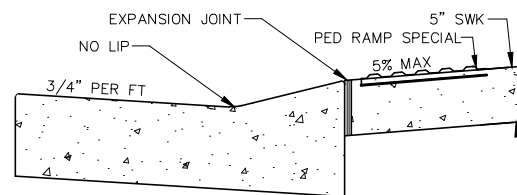
PEDESTRIAN RAMP DETAILS



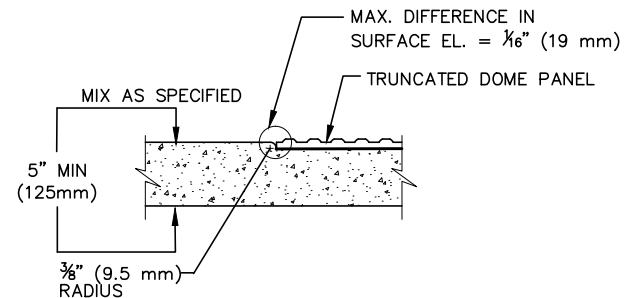
PARALLEL PARKING
KHA DETAIL NOT TO SCALE

NOTES:

1. TRUNCATED DOME AREA SHALL BE A NEENAH R-4984 DETECTABLE WARNING PLATE OR APPROVED EQUAL.
2. THE COLOR OF THE PLATE SHALL BE CAST IRON NATURAL FINISH OR APPROVED EQUAL.
3. THE ENGINEER MAY MODIFY THE GEOMETRICS OF THE RAMP AS NECESSARY TO MATCH EXISTING CONDITIONS, AVOID OBSTRUCTIONS OR FOR OTHER REASONS. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR THESE MODIFICATIONS.
4. THE PLATES ARE AVAILABLE IN RADIUS SECTIONS AND THIS IS PREFERRED IN CURVED SITUATIONS. IF AN APPROPRIATE SIZED RADIUS IS NOT AVAILABLE, THE PLATE SHALL BE SET BACK 4" FROM THE BACK OF CURB.
5. WHEN POSSIBLE, PROVIDE A PATH OF TRAVEL 4'0" WIDE BEHIND THE PEDESTRIAN RAMP. A RELATIVELY FLAT 4'X4' LANDING WILL ALLOW WHEELCHAIRS TO NAVIGATE AROUND THE PEDESTRIAN RAMP.
6. WHEN A MEDIAN IS NOT WIDE ENOUGH FOR TWO PEDESTRIAN RAMPS AND A 48" LANDING BETWEEN THEM, THE PEDESTRIAN CROSSING SHALL BE CUT THROUGH THE MEDIAN AT STREET LEVEL.
7. THE UNIT PRICE FOR PEDESTRIAN RAMP (REGARDLESS OF STYLE) WILL INCLUDE THE TRUNCATED DOME PLATE(S) AND THE IMMEDIATELY SURROUNDING 5" CONCRETE. PEDESTRIAN RAMPS WILL BE PAID AS 'EACH'. THE ESTIMATED SIZE OF THE PAYABLE AREA SHALL BE 21 SQUARE FEET.
8. WET CONCRETE MUST BE KEPT OFF THE TOP SURFACE OF THE PLATE AT ALL TIMES.
9. THE OVERALL TREAD PATTERN SHALL BE INSTALLED TO BE PARALLEL TO THE INTENDED PEDESTRIAN DIRECTION
10. THE LAYOUTS SHOWN ABOVE ARE FOR GENERAL INFORMATION. ACTUAL LAYOUTS CAN BE FOUND BY REFERENCING THE "ACCESSIBLE PUBLIC RIGHTS-OF-WAY: PLANNING AND DESIGNING FOR ALTERATIONS" PUBLISHED BY THE PUBLIC RIGHTS-OF-WAY ACCESS ADVISORY COMMITTEE (DATED JULY 2007).



SECTION B-B



SECTION A-A

CITY OF
BLOOMINGTON
MINNESOTA

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

Kimley-Horn
and Associates, Inc.

2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

I HEREBY CERTIFY THAT THIS PLAN WAS
PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A LICENSED
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THE LAWS OF THE STATE OF MINNESOTA.

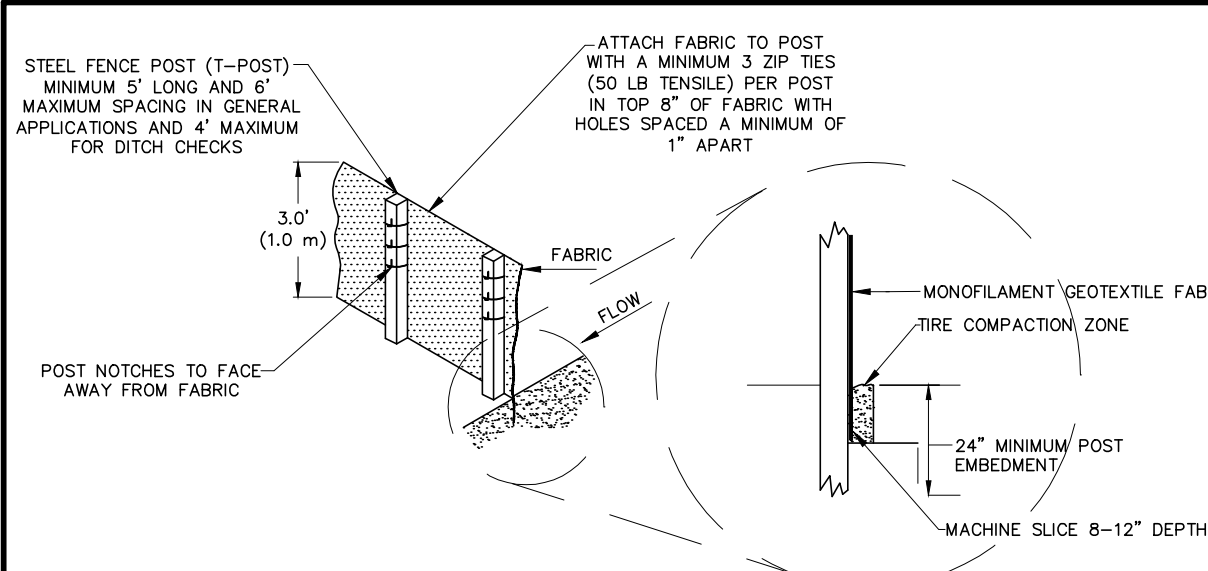
THOMAS G. LINCOLN
21433
LIC. #
DATE
6/10/14

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

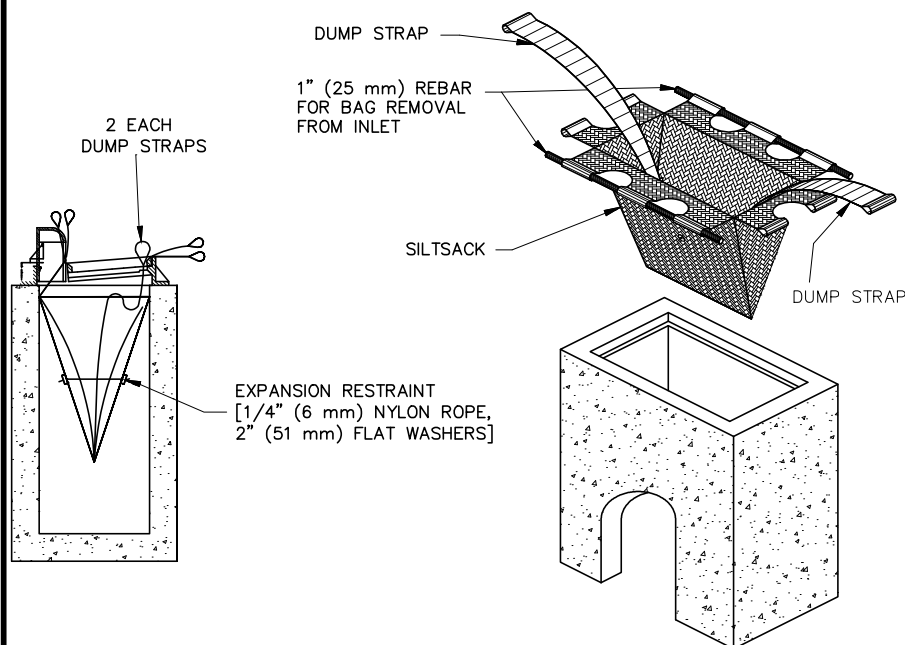
SHEET:
19 OF 83

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

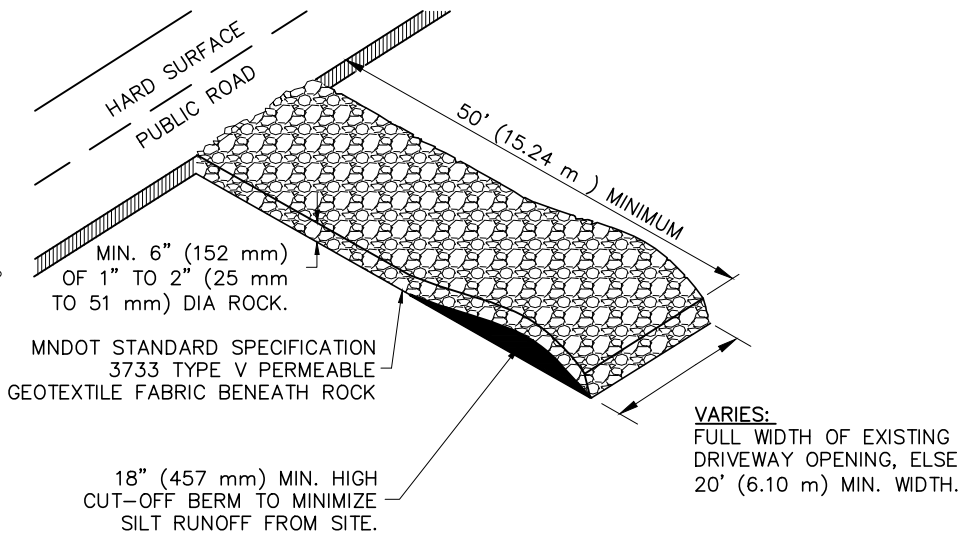
CONSTRUCTION DETAILS
STREET



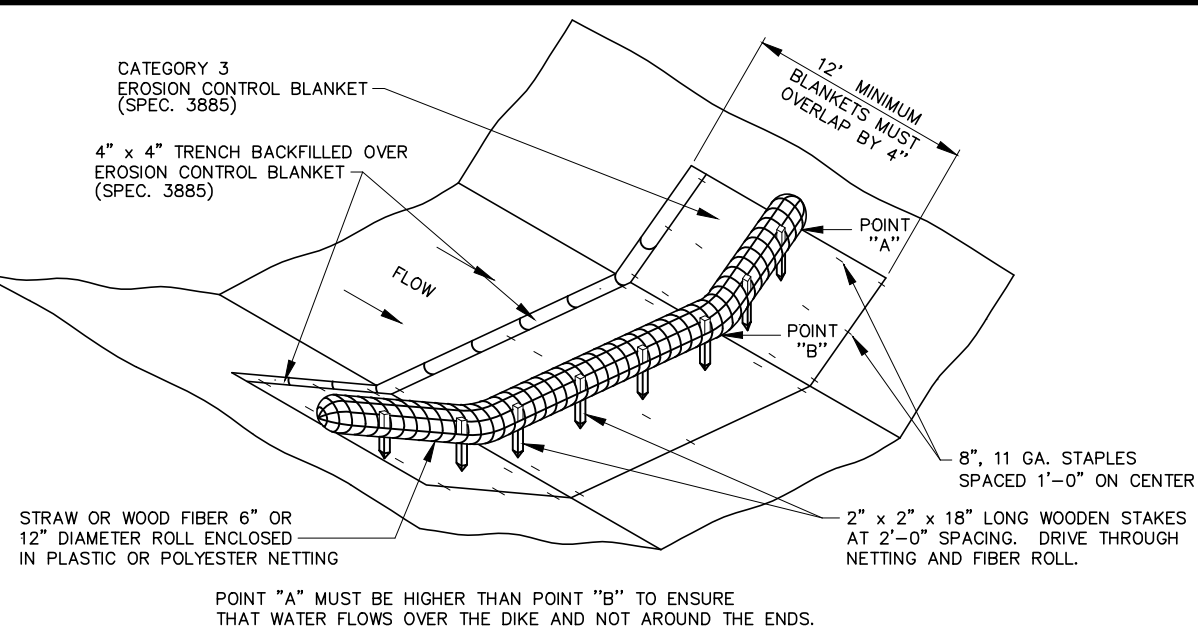
SILT FENCE— MACHINE SLICED
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



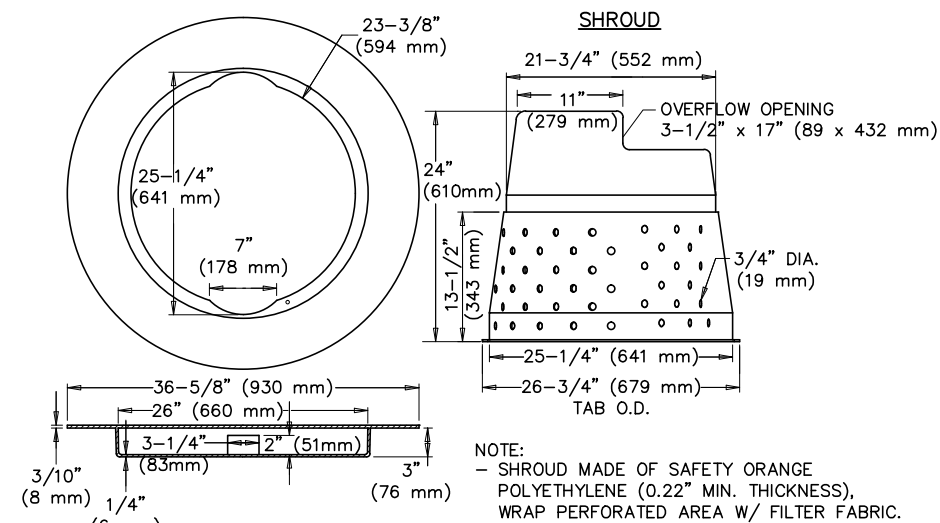
INLET PROTECTION, SEDIMENT FILTER SACK – TYPE 1
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



ROCK CONSTRUCTION ENTRANCE AT ACCESS ROADS
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



BIOROLL BLANKET SYSTEM (TYPE 3 SPEC. 3889)
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



INLET PROTECTION, PERFORATED EROSION
BARRIER SHROUD W/ 27" DIA. FRAME - TYPE 2
CITY OF BLOOMINGTON DETAIL NOT TO SCALE

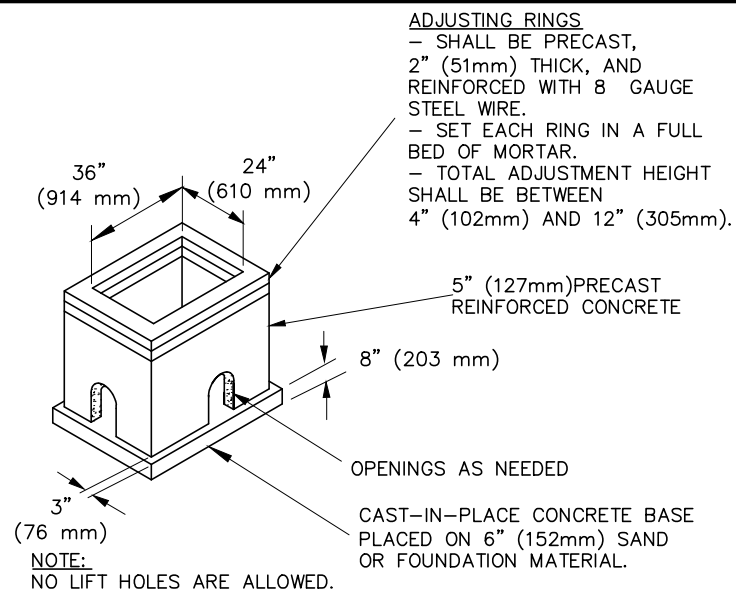
REVIEWS		
DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

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 PREPARED BY ME OR UNDER MY DIRECT
 SUPERVISION AND THAT I AM A DULY
 LICENSED PROFESSIONAL ENGINEER UNDER
 THE LAWS OF THE STATE OF MINNESOTA.

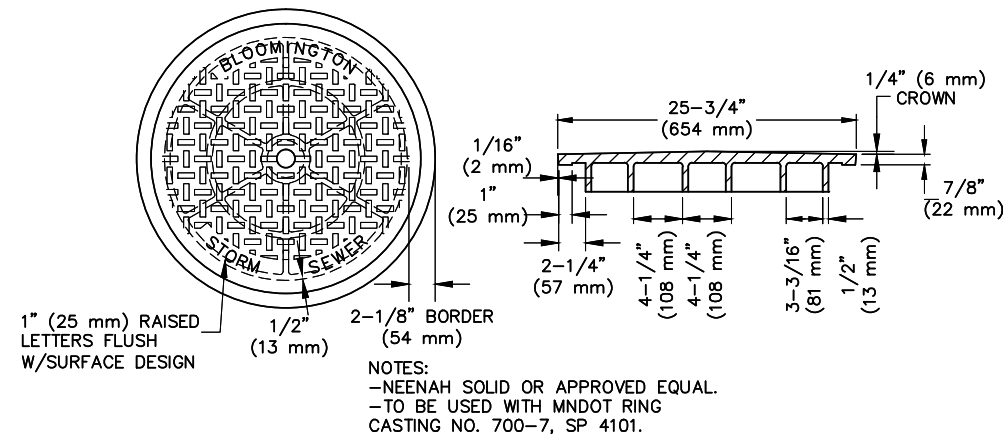
21433 6/10/14
 THOMAS J. LINCOLN LIC. # DATE
Thomas J. Lincoln

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL
SHEET:
20 OF 83

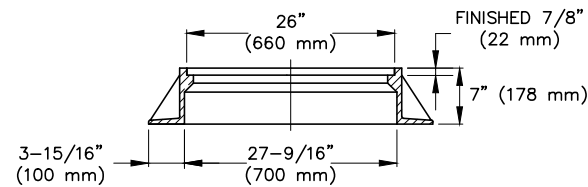
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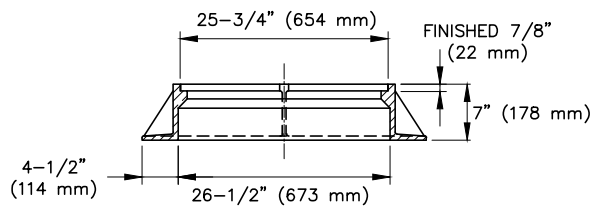
STANDARD CATCH BASIN
CITY OF BLOOMINGTON NOT TO SCALE



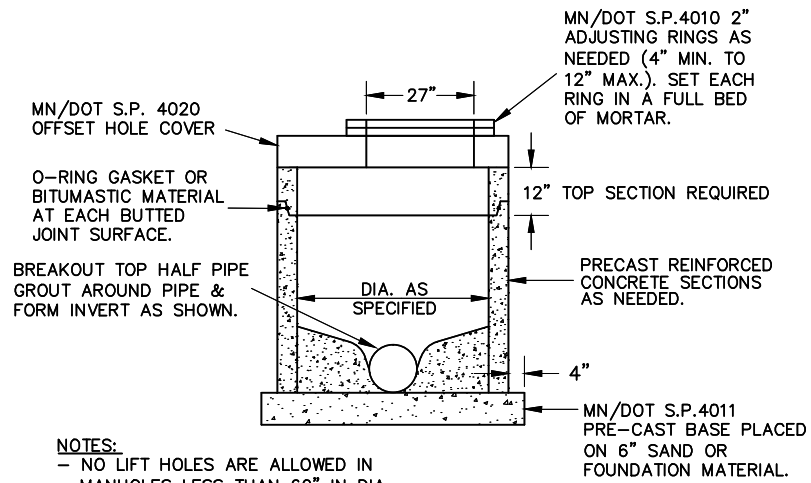
STANDARD STORM SEWER MANHOLE COVER
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



RING CASTING FOR MANHOLE
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



STANDARD MANHOLE FRAME
CITY OF BLOOMINGTON DETAIL NOT TO SCALE

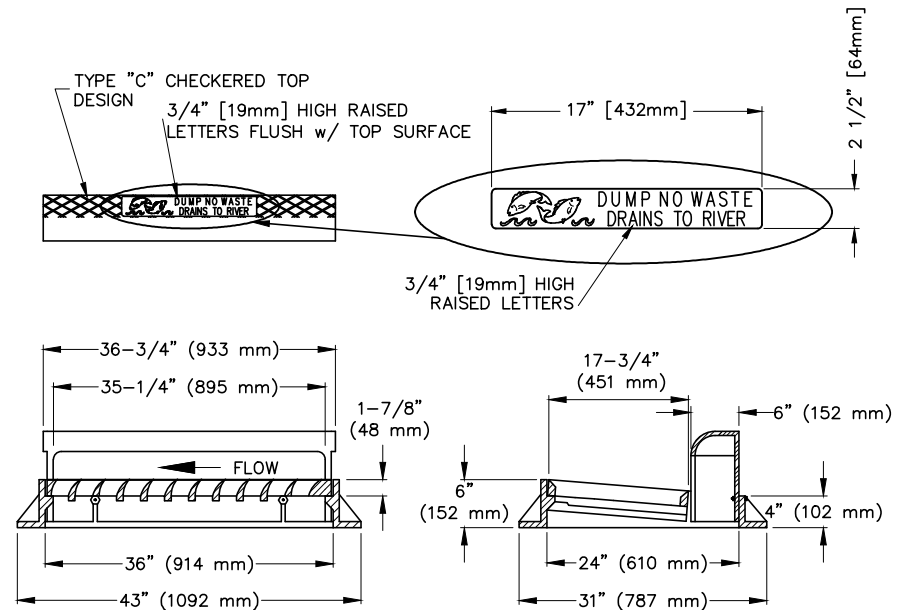


NOTES:

- NO LIFT HOLES ARE ALLOWED IN MANHOLES LESS THAN 60" IN DIA.
- FOR MH'S IN DRIVE LANES, ROTATE COVER SO THAT CASTING IS OUT OF WHEEL PATH, AS APPROVED.

STANDARD MANHOLE

CITY OF BLOOMINGTON DETAIL NOT TO SCALE



RECTANGULAR CATCH BASIN CASTING ASSEMBLY
CITY OF BLOOMINGTON DETAIL NOT TO SCALE

REVISIONS		
DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

THOMAS G. LINCOLN
21433 6/10/14
LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
21 OF 83

**BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304**

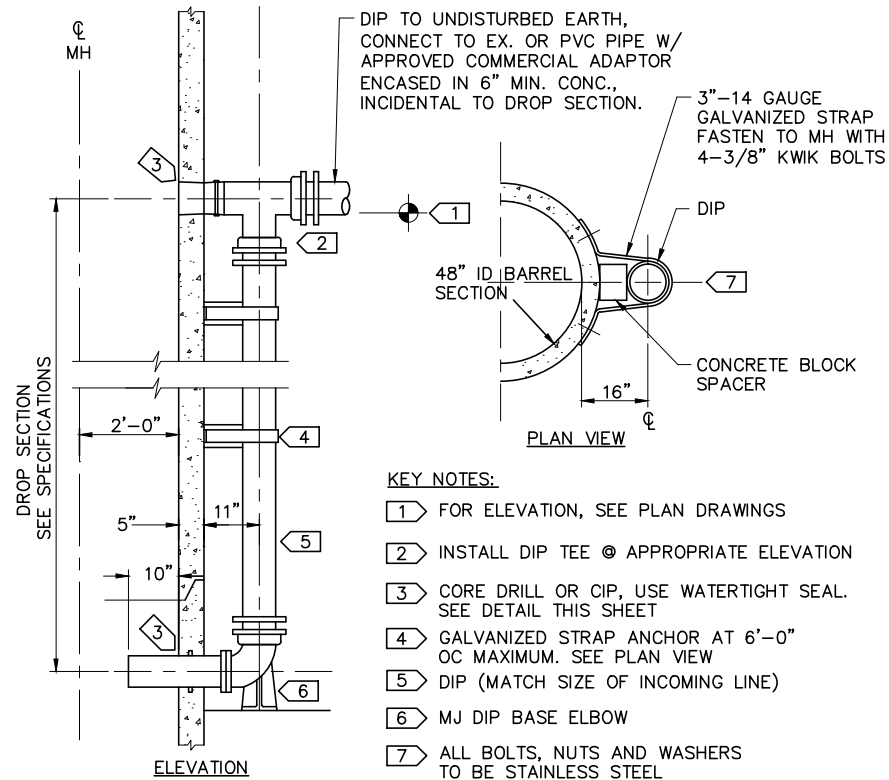
CONSTRUCTION DETAILS

STORM SEWER

CITY OF BLOOMINGTON
MINNEAPOLIS

Kinnery-Horn
and Associates, Inc.
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116
25550 UNIVERSITY AVE. WEST, SUITE 238N
ST. PAUL, MINNESOTA 55114

Drawing name: K:\TWC_Civil\City\Bloomington\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_DET01.dwg -- Printed: Jun 10, 2014 -- 8:07am

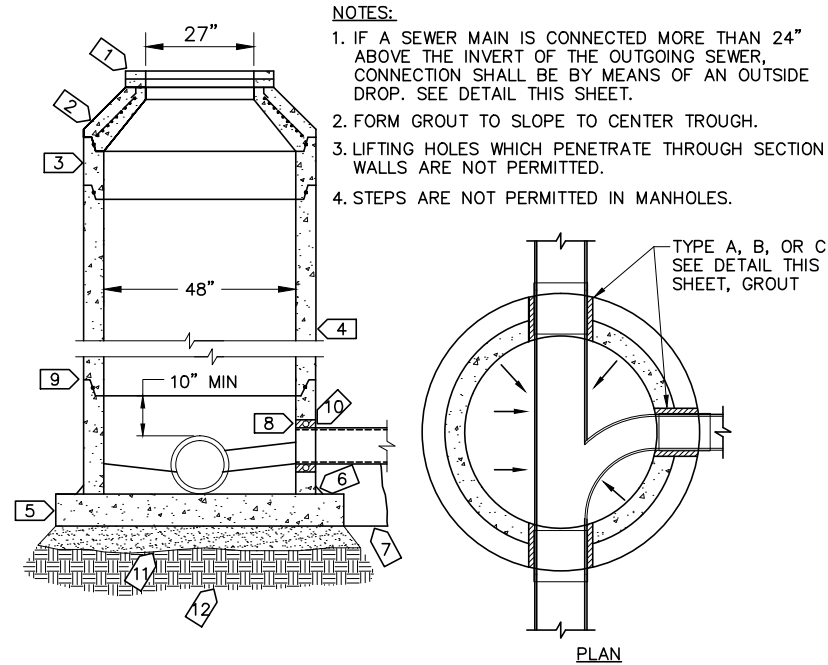


KEY NOTES:

- 1 FOR ELEVATION, SEE PLAN DRAWINGS
- 2 INSTALL DIP TEE @ APPROPRIATE ELEVATION
- 3 CORE DRILL OR CIP, USE WATERTIGHT SEAL. SEE DETAIL THIS SHEET
- 4 GALVANIZED STRAP ANCHOR AT 6'-0" OC MAXIMUM. SEE PLAN VIEW
- 5 DIP (MATCH SIZE OF INCOMING LINE)
- 6 MJ DIP BASE ELBOW
- 7 ALL BOLTS, NUTS AND WASHERS TO BE STAINLESS STEEL

OUTSIDE DROP SECTION

CITY OF BLOOMINGTON DETAIL NOT TO SCALE

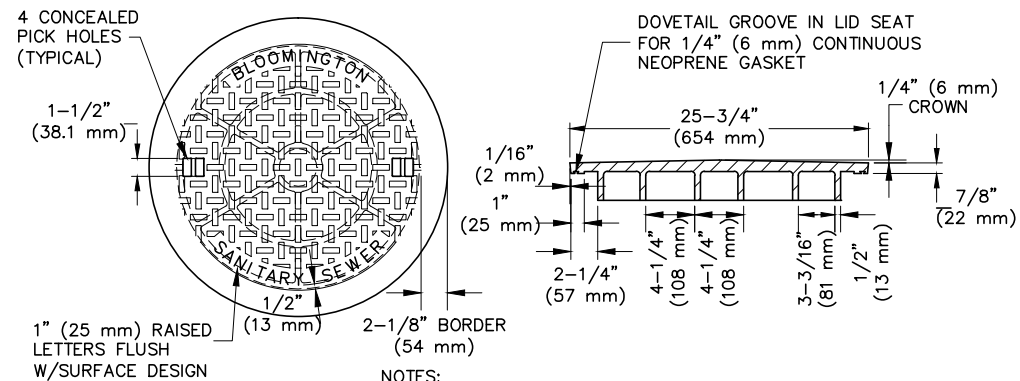


STD. SANITARY SEWER MH

CITY OF BLOOMINGTON DETAIL 4/2009

KEY NOTES:

- 1 MN/DOT S.P.4010 2" ADJUSTING RINGS AS NEEDED [4" MIN. TO 12" MAX.]. SET EACH RING IN FULL BED OF MORTAR.
- 2 MN/DOT S.P.4010 STD. SHORT CONE SECTION.
- 3 12" TOP SECTION REQUIRED.
- 4 USE ONLY PRECAST SECTIONS. NO BRICK OR BLOCK
- 5 8" CAST IN-PLACE CONCRETE OR 6" PRECAST REINFORCED CONCRETE (64" MINIMUM OD)
- 6 CEMENT MORTAR ALL AROUND
- 7 LEAN CONCRETE TO BEAR AGAINST FIRM UNDISTURBED SOIL
- 8 PROVIDE WATER TIGHT PIPE CONNECTIONS SEE DETAIL THIS SHEET
- 9 O-RING GASKET
- 10 FOR CONNECTION TO EXISTING MH'S, CORE DRILL OPENING AND PROVIDE TYPE B WATER TIGHT CONNECTOR
- 11 6" SAND OR FOUNDATION MATERIAL
- 12 UNDISTURBED SOIL OR COMPACTED SUBGRADE



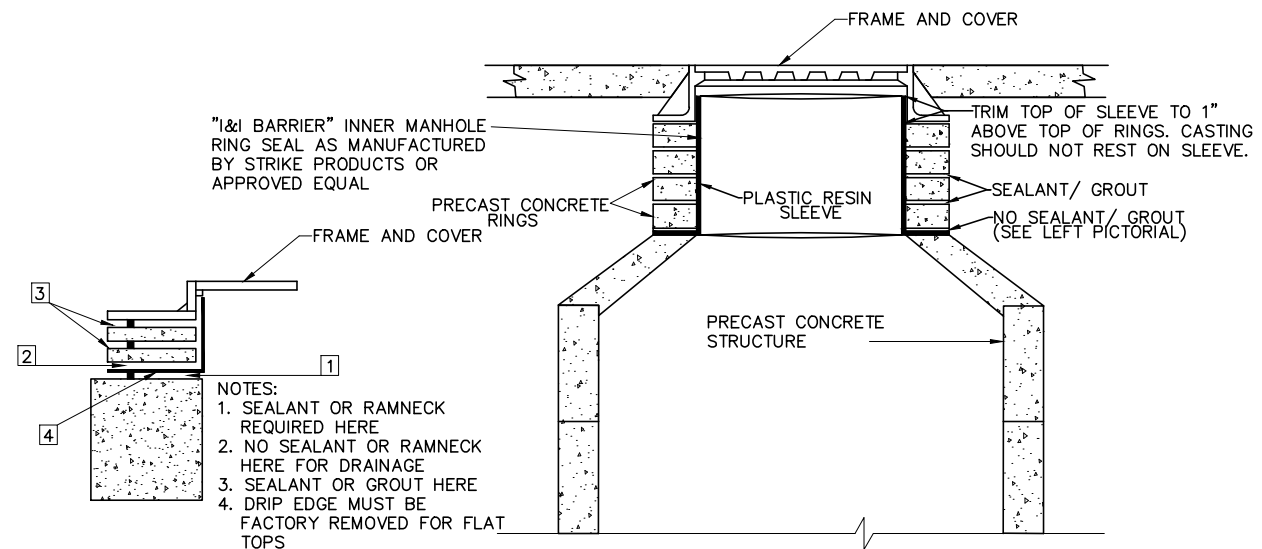
STANDARD SANITARY MANHOLE COVER

CITY OF BLOOMINGTON DETAIL

4/2009

NOTES:

- NEENAH SOLID TYPE "C" (SELF SEALING) OR APPROVED EQUAL.
- TO BE USED WITH MNDOT RING CASTING NO. 700-7, SP 4101.



INTERNAL CHIMNEY SEAL

Internal Chimney Seal.dwg

1/2011

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

THOMAS J. LINCOLN 21433 6/10/14 DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
22 OF 83

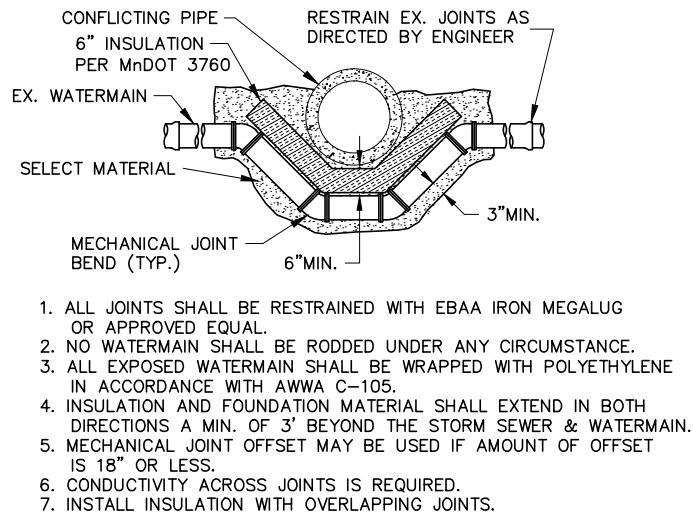
CITY OF BLOOMINGTON MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

Kimley-Horn and Associates, Inc.
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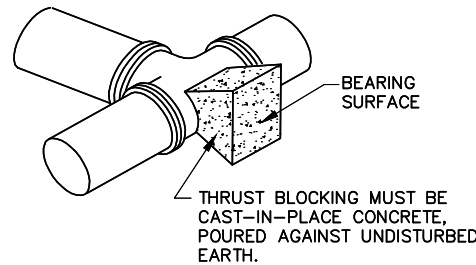
BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

CONSTRUCTION DETAILS
SANITARY

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WATERMAIN OFFSET
CITY OF BLOOMINGTON DETAIL NOT TO SCALE

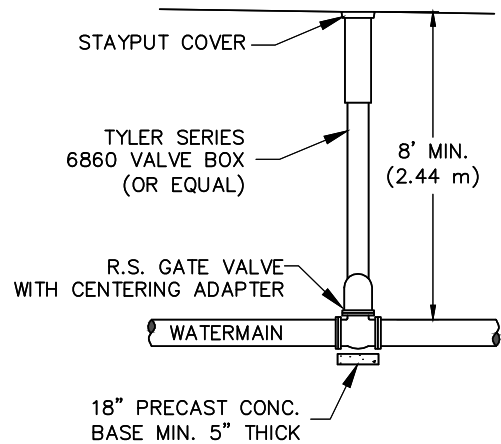


PIPE SIZE	BEARING AREA
6"	2.25 SF
8"	4 SF

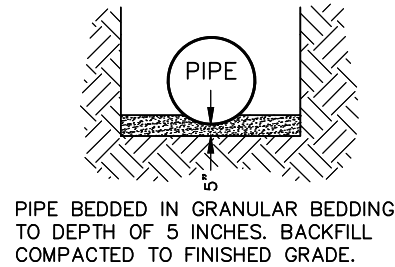
NOTES:

- THRUST BLOCKS TO BE USED FOR BENDS 22 1/2" AND OVER, INCLUDING HYDRANTS AND HYDRANT TEES.
- THRUST BLOCKS ARE REQUIRED REGARDLESS OF ANY OTHER RESTRAINT METHODS USED ON WATERMAIN LESS THAN 12" IN DIA.
- RESTRAINT METHODS ON WATERMAIN LARGER THAN 12" SHALL BE MEGALUGS, LOCKING GASKETS OR OTHER APPROVED EQUAL. THE LENGTH OF RESTRAINT SHALL BE AS COMPUTED BY DIPRA.

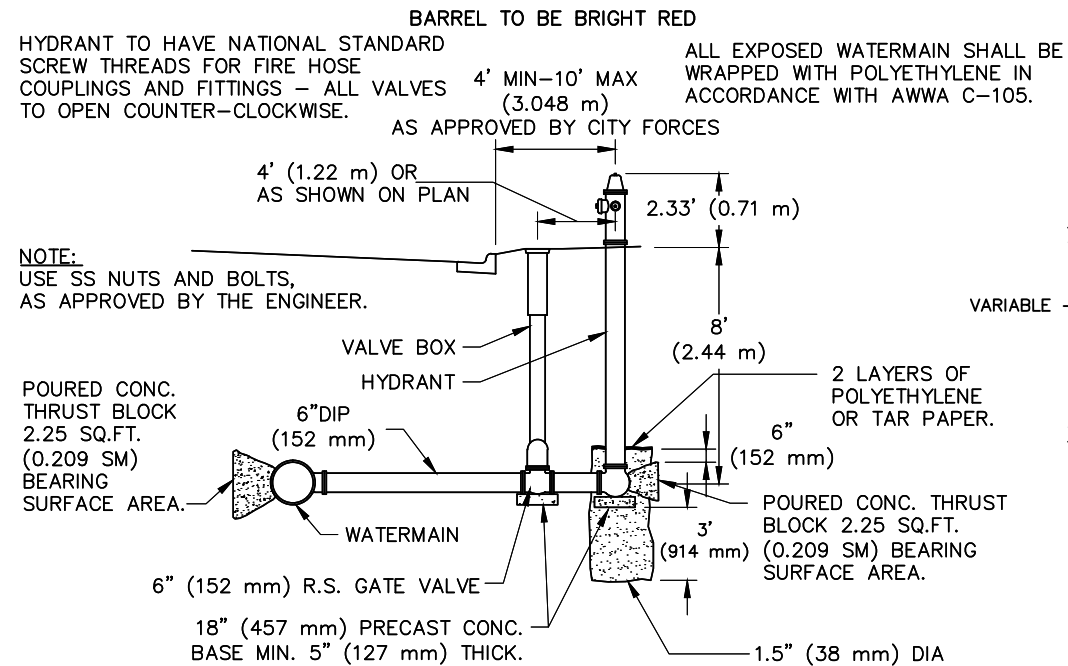
TYPICAL THRUST BLOCK
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



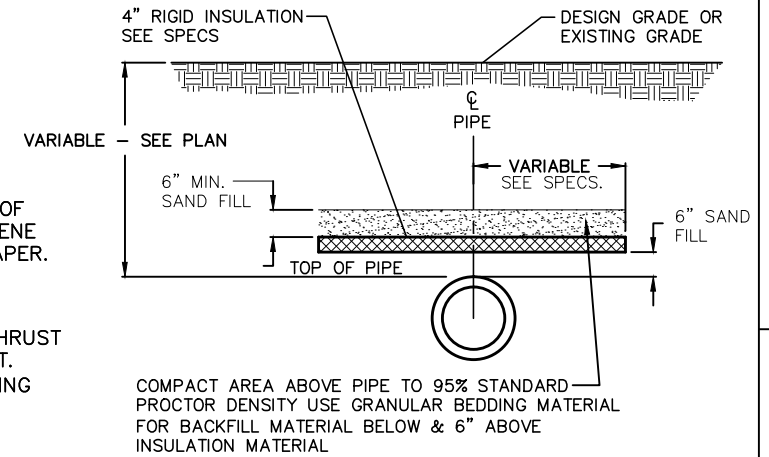
TYPICAL VALVE INSTALLATION
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



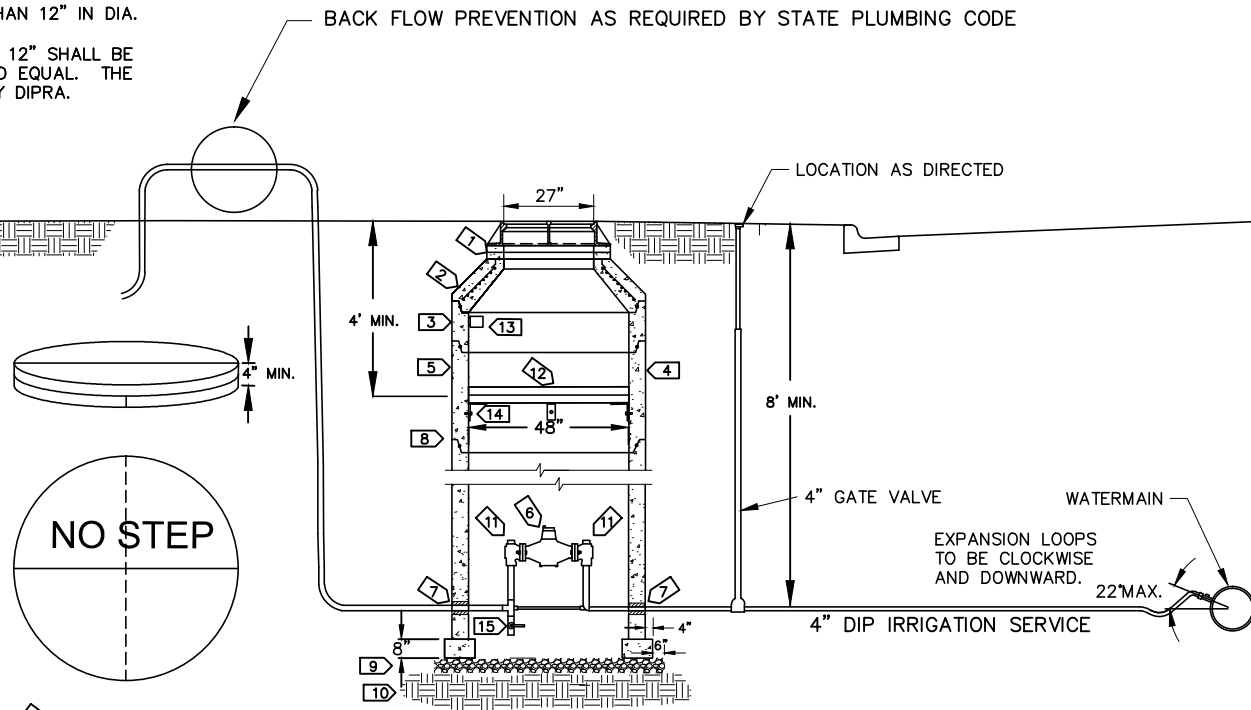
PIPE BEDDING DETAIL
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



TYPICAL HYDRANT INSTALLATION
CITY OF BLOOMINGTON DETAIL NOT TO SCALE



PIPE INSULATION



STD. WATER SERVICE METER MANHOLE
STDMETERMH.dwg

KEY NOTES:

- MN/DOT S.P.4010H 2" ADJUSTING RINGS AS NEEDED [4" MIN. TO 12" MAX.]. SET EACH RING IN FULL BED OF MORTAR.
- MN/DOT S.P.4010H STD. SHORT CONE SECTION.
- 12" TOP SECTION REQUIRED.
- PRECAST REINFORCED CONCRETE SECTIONS AS NEEDED. NO BRICK OR BLOCK
- MH LOCATED ON PRIVATE PROPERTY OUT OF RIGHT OF WAY
- METER SUPPLIED BY CITY OF BLOOMINGTON TO REMAIN IN PLACE YEAR AROUND
- SERVICE LINE HOLE TO BE GROUTED BEFORE BACKFILLING
- O-RING GASKET OR BITUMASTIC MATERIAL AT EACH BUTTED JOINT SURFACE
- 6" OF CRUSHED ROCK FOUNDATION, COMPACTED (LIMESTONE IS NOT ACCEPTABLE)
- COMPACTED SUBGRADE
- ISOLATION VALVES ON BOTH SIDES OF METER ARE PART OF METER SETTER SUPPLIED BY CITY FOR 1.5" & 2" METERS. METERS 1" AND SMALLER DON'T USE METER SETTER AND ISOLATION VALVES WILL BE SUPPLIED BY PLUMBER.
- INSULATE TO PREVENT FREEZING OF SERVICE AND METER (SEE DETAIL)
- RADIO READ UNIT TO BE INSTALLED BY CITY OF BLOOMINGTON
- INSTALL 2" STEEL BRACKET AND SECURE WITH 2" X 1/2" ANCHOR BOLTS
- INSTALL 2" BLOW OFF VALVE

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

CONSTRUCTION DETAILS
WATER

CITY OF BLOOMINGTON
MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

Kimley-Horn
and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230A
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4107
FAX. NO. (651) 645-5116

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

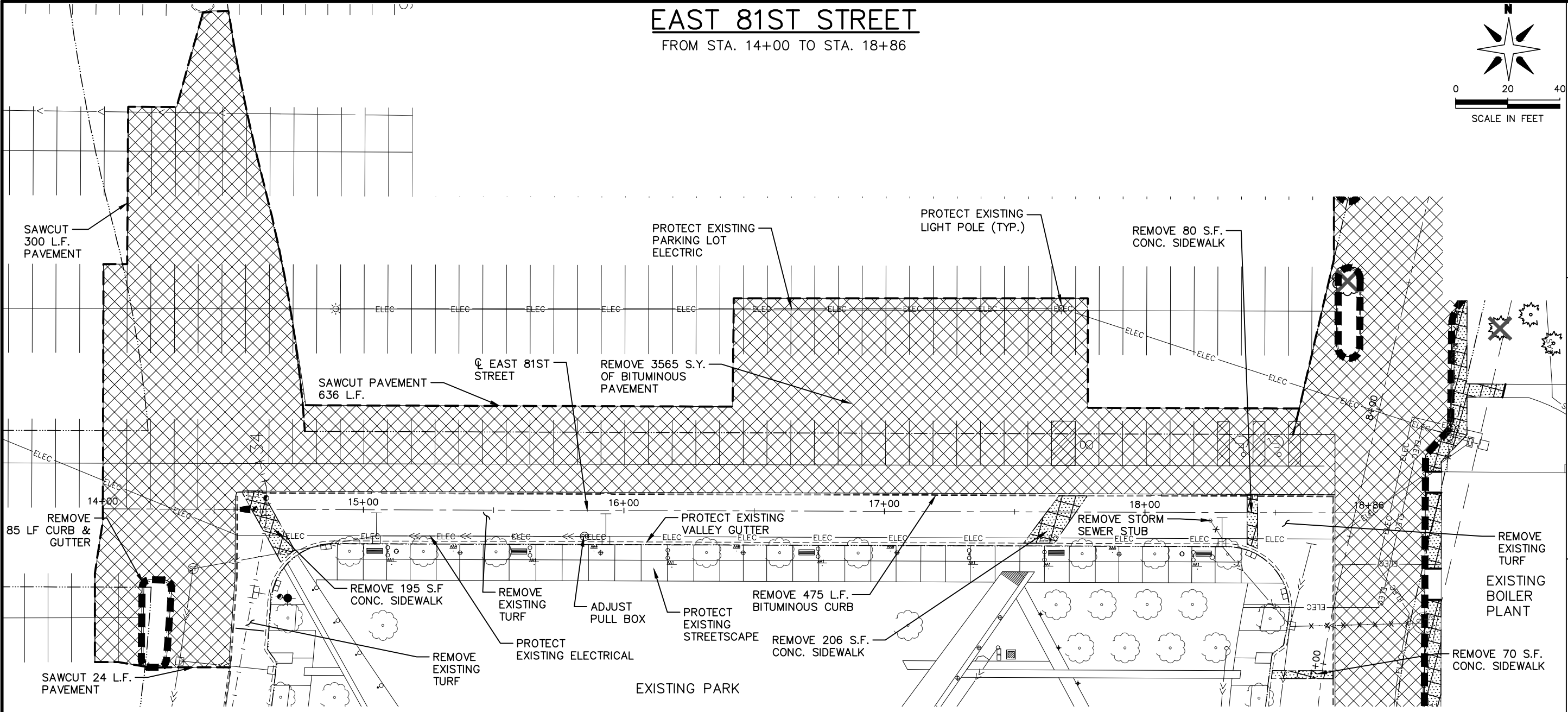
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THOMAS G. LINCOLN
21433
6/10/14
DATE

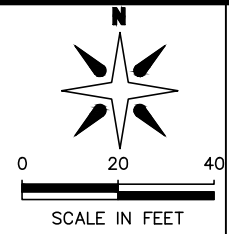
DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
23 OF 83

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EAST 81ST STREET
FROM STA. 14+00 TO STA. 18+86








REMOVAL NOTES:

1. CENTERPOINT ENERGY HAS TERMINATED THE GAS LINE AT THE CURB AND REMOVED THE GAS METER FROM THE PREVIOUSLY DEMOLISHED BUILDINGS. CONTRACTOR TO FIELD VERIFY.
2. EXISTING SIDEWALK ALONG AMERICAN BOULEVARD (WEST OF 33RD AVENUE SOUTH) IS TO BE PROTECTED IN PLACE AND NOT OBSTRUCTED DURING CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL DEBRIS FROM THE SITE AND DISPOSING THE DEBRIS IN A LAWFUL MANNER. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL.
4. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES.
5. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES.
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12. THE CONTRACTOR MUST CONTACT GOPHER STATE ONE CALL BEFORE CONSTRUCTION BEGINS. MN TOLL FREE: 1-800-252-1166 TWIN CITIES METRO AREA: 651-454-0002. PHYSICAL LOCATIONS AND DEPTH OF UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".
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LEGEND


-  REMOVE BITUMINOUS SURFACE (4" TO 6")
-  REMOVE CONCRETE SURFACE
-  REMOVE CONCRETE CURB & GUTTER
-  REMOVE UTILITY LINES
-  REMOVE TREE

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

EAST 81ST STREET EXISTING
CONDITIONS & REMOVALS
FROM STA. 14+00 TO STA. 18+86

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

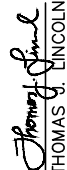
**CITY OF BLOOMINGTON**
MINNESOTA

**Kimley-Horn
and Associates, Inc.**

2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

REVISIONS		DATE	DESCRIPTION	BY
		06/10/2014	ISSUED FOR BID	TJL

I HEREBY CERTIFY THAT THIS PLAN WAS
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UNDER
THE LAWS OF THE STATE OF MINNESOTA.


THOMAS G. LINCOLN
21433 6/10/14
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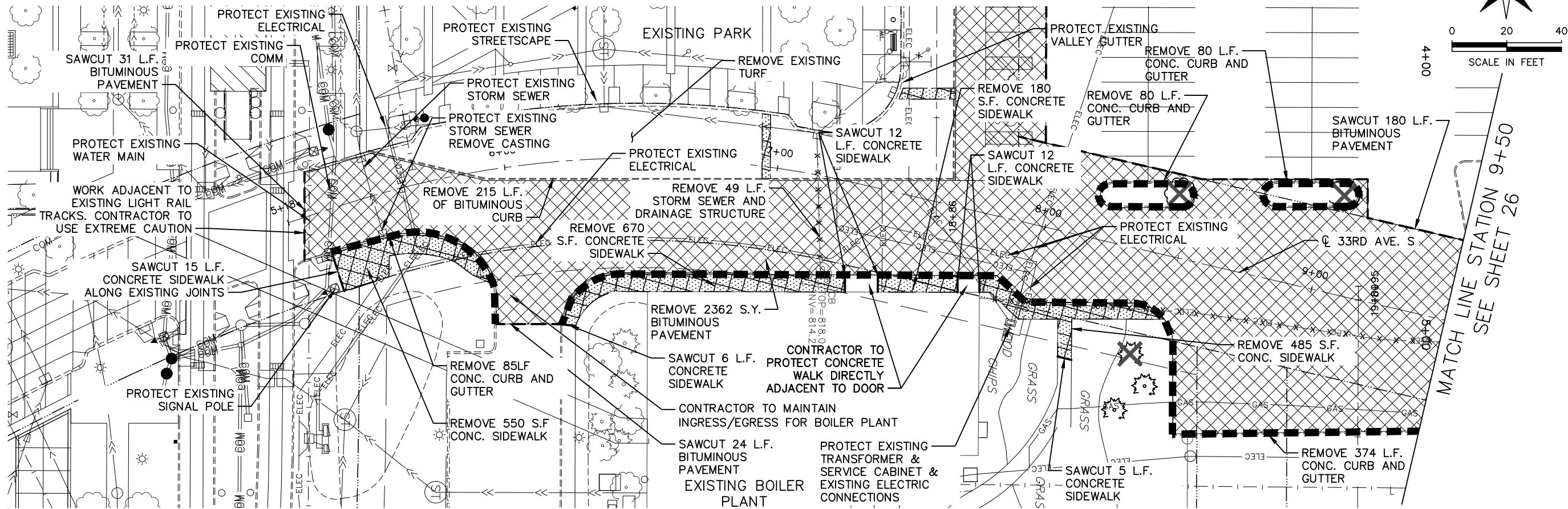
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24 OF 83

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33RD AVENUE SOUTH

FROM STA. 5+18 TO STA. 9+50



REMOVAL NOTES:

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	REMOVE UTILITY LINES
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Thomas G. Lincoln 21433 6/10/14
THOMAS G. LINCOLN LIC. #

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
25 OF 83

CITY OF BLOOMINGTON MINNESOTA
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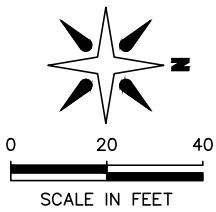
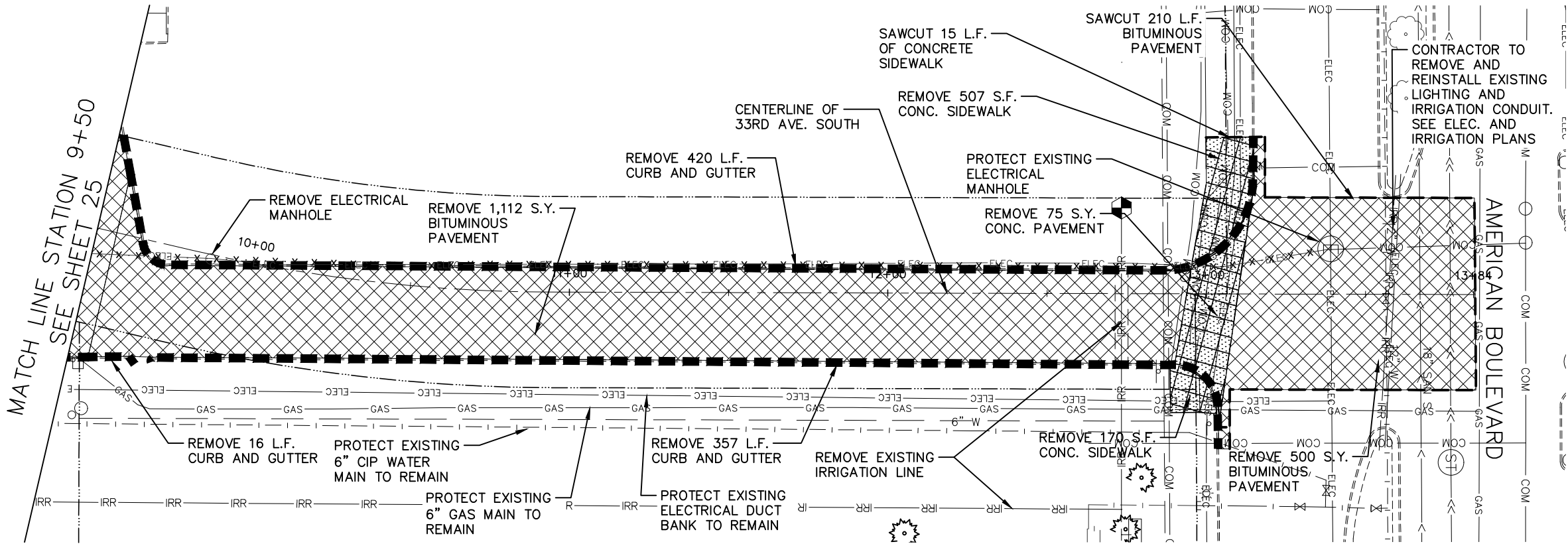
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BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

33RD AVENUE SOUTH EXISTING
CONDITIONS & REMOVALS
FROM STA. 5+18 TO STA. 9+50

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33RD AVENUE SOUTH
FROM STA. 9+50 TO STA. 13+84



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LEGEND

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- REMOVE CONCRETE SURFACE
- REMOVE CONCRETE CURB & GUTTER
- REMOVE UTILITY LINES
- REMOVE TREE

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

33RD AVENUE SOUTH EXISTING
CONDITIONS & REMOVALS
FROM STA. 9+50 TO STA. 13+84

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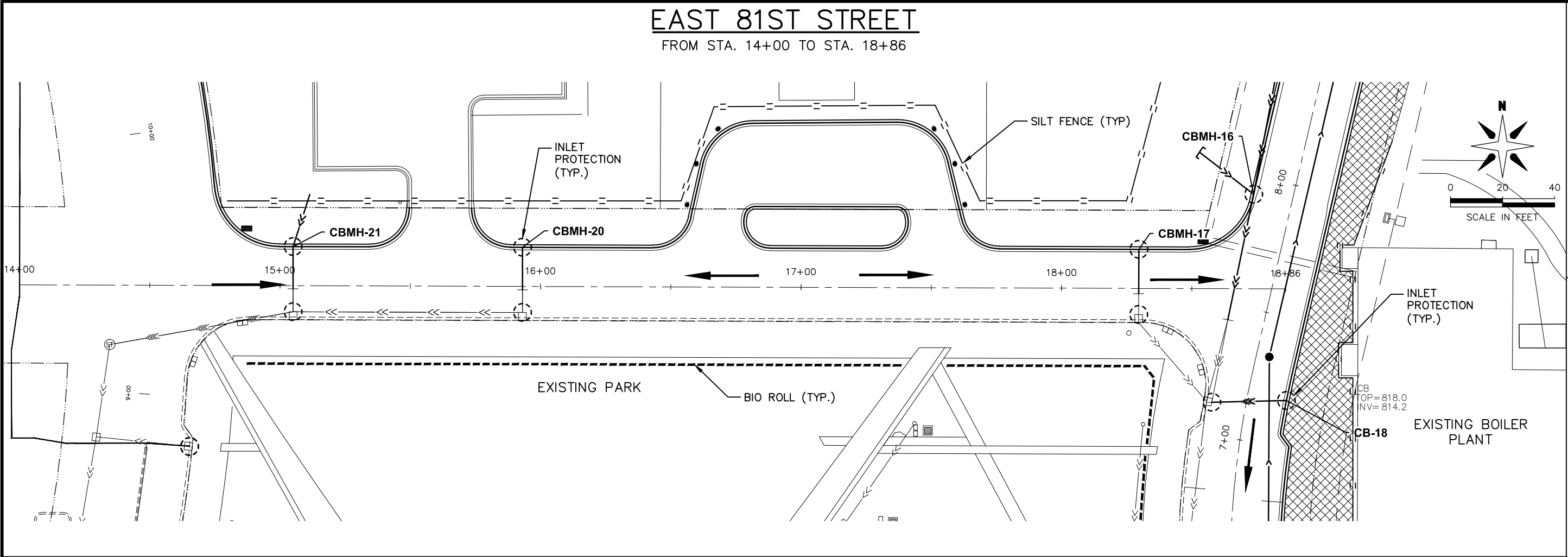
THOMAS G. LINCOLN
21433
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DRAWN: LMM
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SHEET:
26 OF 83

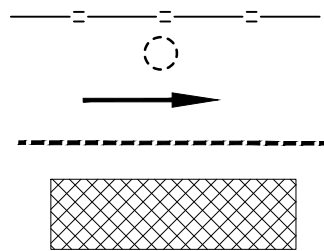
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NOTES:

1. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS. ALL INLETS MUST BE PROTECTED OR PLATED.
2. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED ACCORDING TO THE MINNESOTA POLLUTION CONTROL AGENCY'S BEST MANAGEMENT PRACTICES MANUAL (NOVEMBER 2002).

LEGEND



- SILT FENCE
- INLET PROTECTION - TYPE 1
- DRAINAGE DIRECTION
- BIO ROLL
- RAPID STABILIZATION METHOD 3

REVISIONS			DATE		BY	
DESCRIPTION			ISSUED FOR BID		TJL	
			06/10/2014			

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Thomas J. Lincoln
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PHONE (652) 563-8700

Kimley-Horn and Associates, Inc.

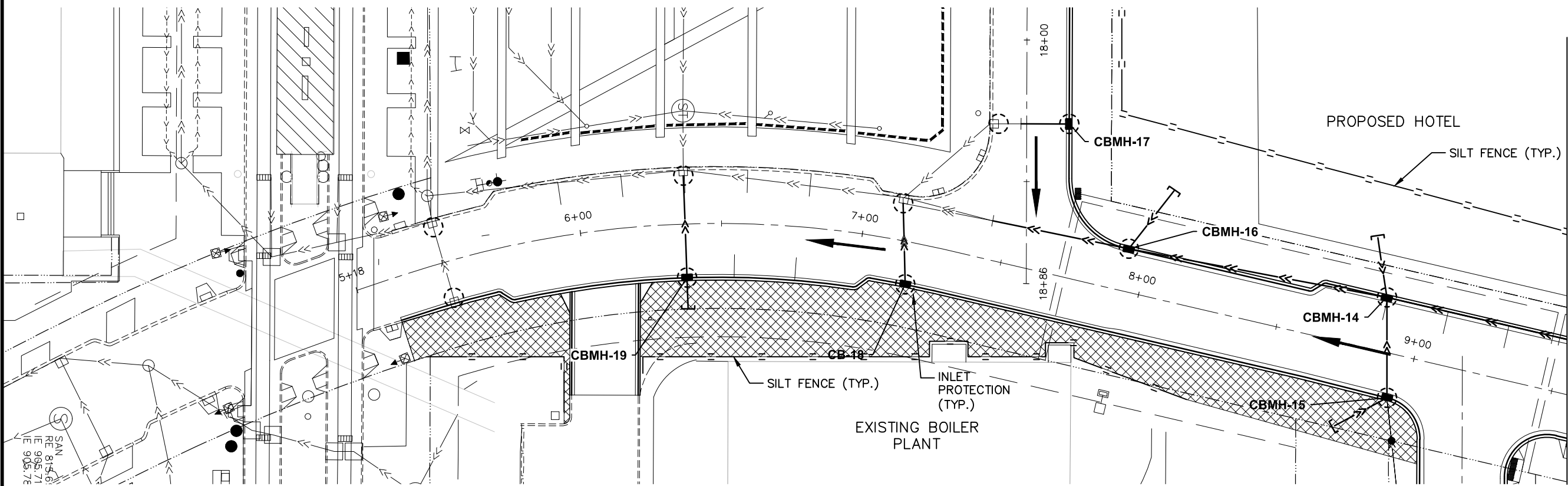
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

**BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304**

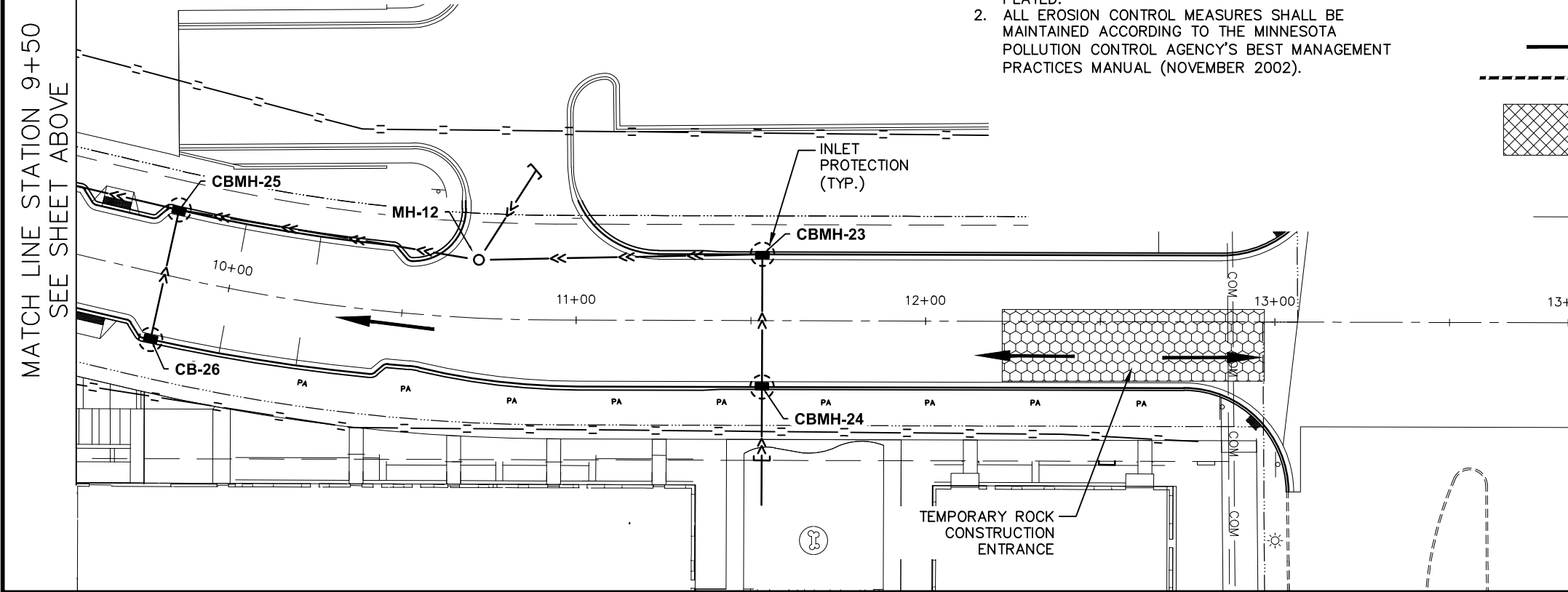
**EAST 81ST STREET STORMWATER
POLLUTION PREVENTION PLAN**

Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_ECP02.dwg -- Printed: Jun 10, 2014 -- 8:10am

MATCH LINE STATION 9+50
SEE SHEET ABOVE

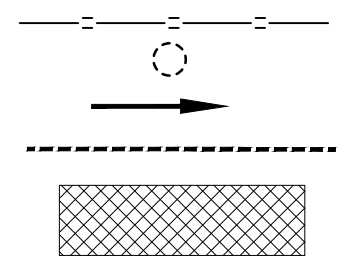


MATCH LINE STATION 9+50
SEE SHEET BELOW



NOTES:

1. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS. ALL INLETS MUST BE PROTECTED OR PLATED.
2. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED ACCORDING TO THE MINNESOTA POLLUTION CONTROL AGENCY'S BEST MANAGEMENT PRACTICES MANUAL (NOVEMBER 2002).



LEGEND

- SILT FENCE
- INLET PROTECTION - TYPE 1
- DRAINAGE DIRECTION
- BIO ROLL
- RAPID STABILIZATION METHOD 3

REVISIONS			DATE		BY	
DATE	DESCRIPTION	ISSUED FOR BID	DATE	DESCRIPTION	ISSUED FOR BID	DATE
06/10/2014						

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Thomas G. Lincoln
THOMAS G. LINCOLN 21433 6/10/14
LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
28 OF 83

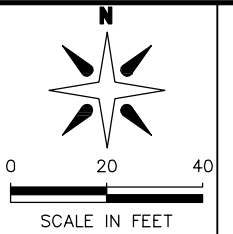
CITY OF BLOOMINGTON
MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (651) 563-8700

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

33RD AVENUE SOUTH
STORMWATER POLLUTION
PREVENTION PLAN

FROM STA. 18+95 TO STA. 24+86



**Kimley-Horn
and Associates, Inc.**

TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

2550 UNIVERSITY AVE. WEST, SUITE 238N
ST. PAUL, MINNESOTA 55114

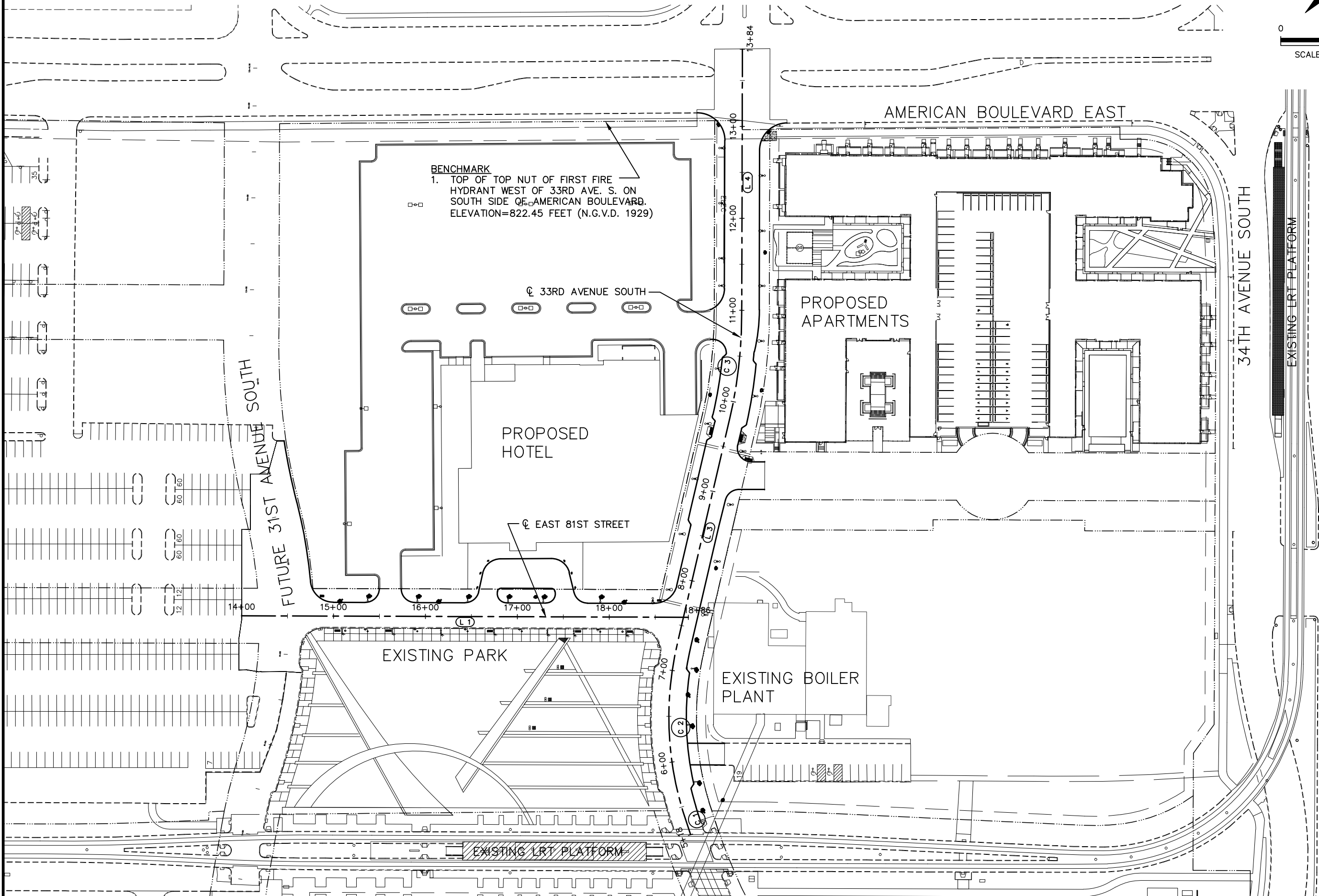
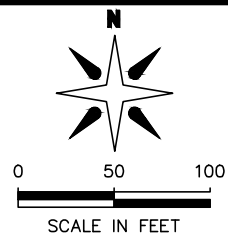
1. EROSION CONTROL MUST BE IN-PLACE PRIOR TO REMOVALS. ALL INLETS MUST BE PROTECTED OR PLATED.
2. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED ACCORDING TO THE MINNESOTA POLLUTION CONTROL AGENCY'S BEST MANAGEMENT PRACTICES MANUAL (NOVEMBER 2002).

- SILT FENCE
INLET PROTECTION – TYPE 1
INLET PROTECTION – TYPE 2
DRAINAGE DIRECTION
BIO ROLL
RAPID STABILIZATION METHOD 3

DRAWN: LMM
 CHECKED: BRE
 APPROVED: TJL
 SHEET:
 29 OF 83

Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_ALG01.dwg -- Printed: Jun 10, 2014 -- 8:11am

ALIGNMENT & CONTROL PLAN



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Thomas G. Lincoln
THOMAS G. LINCOLN 21433 6/10/14
LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
30 OF 83

REVISIONS		
DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

CITY OF BLOOMINGTON MINNESOTA

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

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TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

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CITY PROJECT 2013-304

ALIGNMENT & CONTROL PLAN

Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_ALG02.dwg -- Printed: Jun 10, 2014 -- 8:11am

ALIGNMENT & CONTROL PLAN


ALIGNMENT DATA East 81st Street													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
L 1	14+00.00	18+86.00						486.00	124091.94	540391.30	124090.37	540877.30	90°11'04"

ALIGNMENT DATA 33rd Avenue South													
SEGMENT NUMBER	BEGINNING STATION	ENDING STATION	PI STATION	DELTA	DEGREE	RADIUS (FT)	TANGENT (FT)	LENGTH (FT)	BEGINNING COORDINATES NORTHING	BEGINNING COORDINATES EASTING	ENDING COORDINATES NORTHING	ENDING COORDINATES EASTING	AZIMUTH
C 1	5+18.32	5+45.51	5+31.91	2°04'37"	7°38'21.97"	750.00	13.59	27.19	123853.76	540879.67	123879.61	540871.27	340°57'48" 343°02'24"
C 2	5+45.51	7+29.19	6+39.52	30°04'11"	16°22'12.80"	350.00	94.01	183.69	123879.61	540871.27	124061.10	540865.17	343°02'24" 13°06'35"
L 3	7+29.19	9+81.02						251.83	124061.10	540865.17	124306.36	540922.29	13°06'35"
C 3	9+81.02	10+94.08	10+37.79	12°57'20"	11°27'32.96"	500.00	56.77	113.06	124306.36	540922.29	124418.42	540935.32	13°06'35" 0°09'15"
L 4	10+94.08	13+84.00						289.92	124418.42	540935.32	124708.34	540936.10	0°09'15"

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.


THOMAS J. LINCOLN

21433
LIC. #

6/10/14
DATE


DRAWN: LMM

CHECKED: BRE

APPROVED: TJL


SHEET:

31 OF 83



CITY OF
BLOOMINGTON
MINNESOTA

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (952) 563-8700



Kimley-Horn
and Associates, Inc.

2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

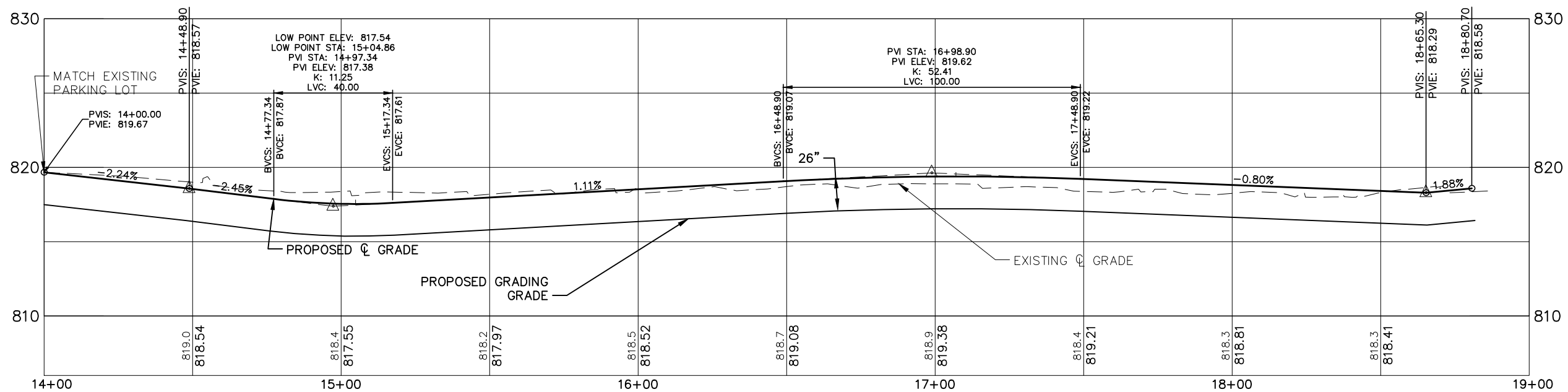
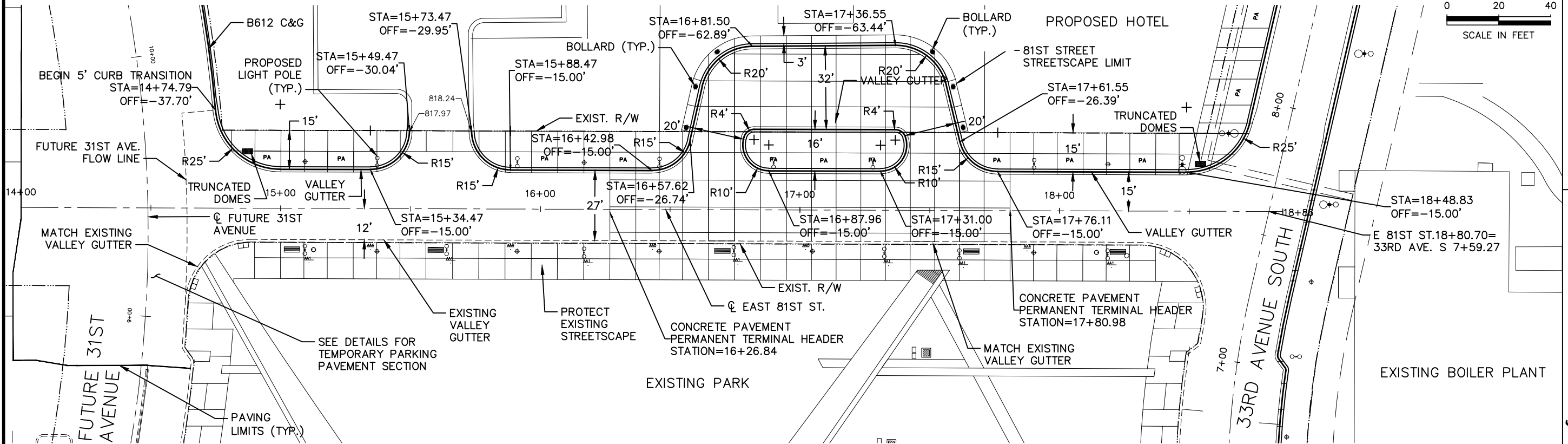
BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

ALIGNMENT & CONTROL PLAN

1. FOR PAVEMENT, WALK, AND CURB TYPES AND FINISHES, SEE STREETScape PLANS (L2-L4).
2. CURB ELEVATIONS ARE TO BE FLOW LINE UNLESS OTHERWISE NOTED.
3. SEE SHEET 35 FOR JOINTING TYPES AND LAYOUT.

EAST 81ST STREET PLAN AND PROFILE

FROM STA. 14+00 TO STA. 18+86



EAST 81ST STREET PLAN AND
PROFILE

**CITY OF
BLOOMINGTON
MINNESOTA**




**1700 W. 98TH ST.
BLOOMINGTON, MN 55431
PHONE (952) 563-3700**

**Kimley-Horn
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**2550 UNIVERSITY AVE. WEST, SUITE 238N
ST. PAUL, MINNESOTA 55114**

**TEL. NO. (651) 645-4197
FAX NO. (651) 645-5116**

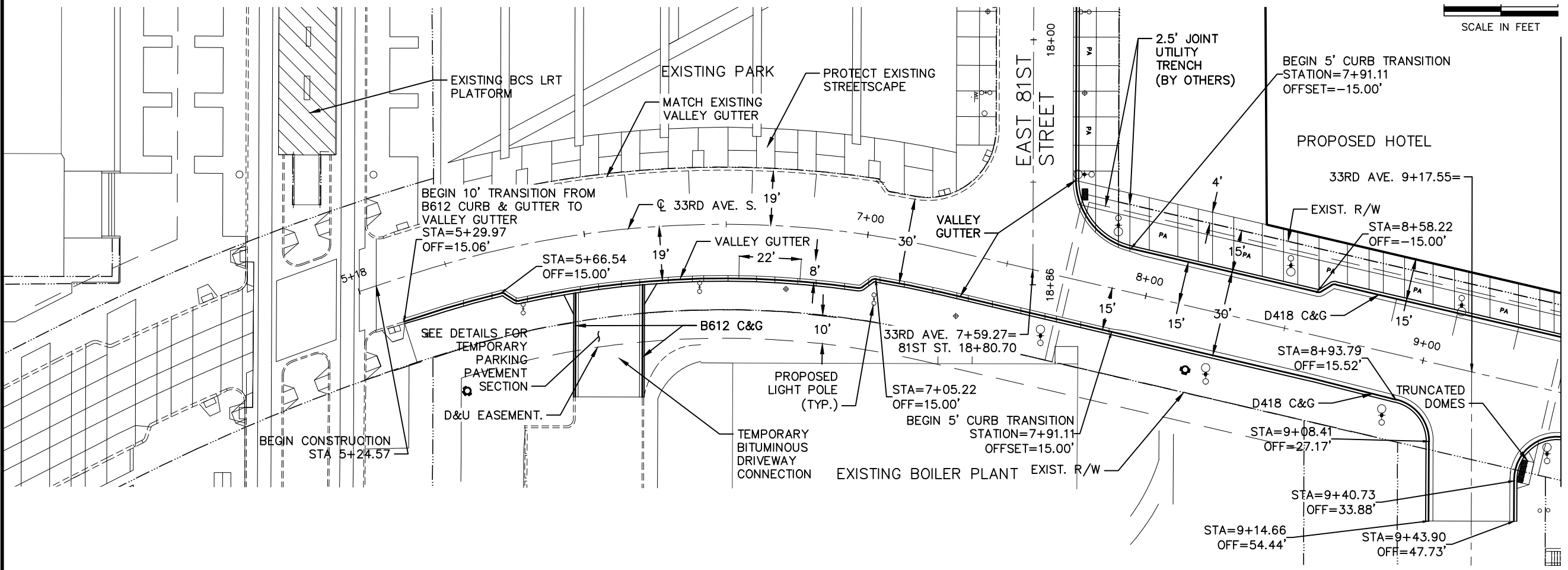
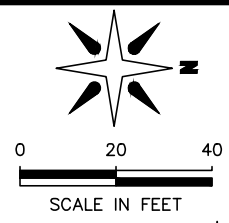
DRAWN: LMM		DATE	
CHECKED: BRE		21433 6/10/14	
APPROVED: TJL		LIC. #	
SHEET:		THOMAS G. LINCOLN	
32 OF 83			
PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		REVISIONS	
		DATE	DESCRIPTION
		06/10/2014	ISSUED FOR BID
			BY
			TJL

Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_PPF02.dwg -- Printed: Jun 10, 2014 -- 8:12am

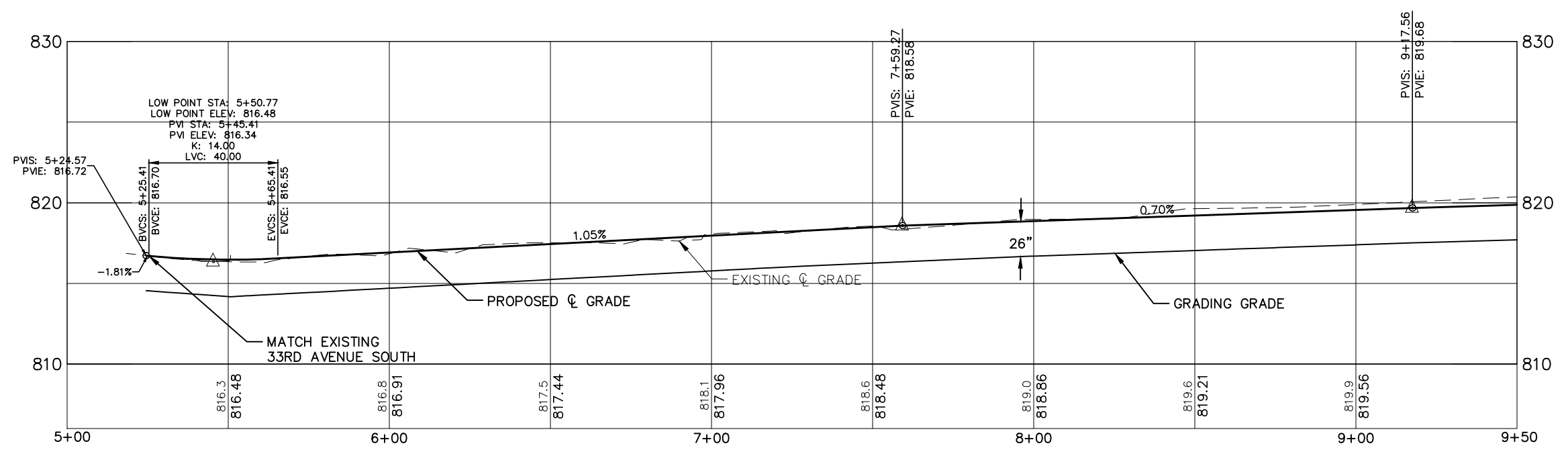
NOTES:
1. FOR PAVEMENT, WALK, AND CURB TYPES AND FINISHES, SEE STREETScape PLANS (L2-L4).

33RD AVENUE SOUTH

FROM STA. 5+18 TO STA. 9+50



MATCH LINE STATION 9+50
SEE SHEET 34



BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

33RD AVENUE SOUTH STREET
PLAN AND PROFILE
FROM STA. 5+18 TO STA. 9+50

CITY OF
BLOOMINGTON
MINNESOTA

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (651) 563-8700

Kinley-Horn
and Associates, Inc.

2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

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THOMAS G. LINCOLN

21433

6/10/14

DATE

DRAWN: LMM

CHECKED: BRE

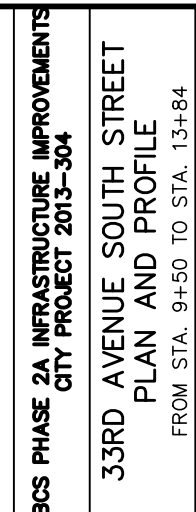
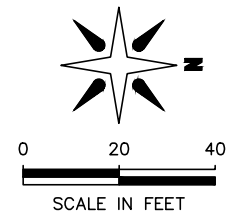
APPROVED: TJL

SHEET:

33 OF 83

NOTES:
1. FOR PAVEMENT, WALK, AND CURB TYPES AND FINISHES, SEE STREETScape PLANS (L2-L4).

FROM STA. 9+50 TO STA. 13+84



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MINNESOTA**

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**Kimley-Horn
and Associates, Inc.**

2550 UNIVERSITY AVE. WEST, SUITE 238N
ST. PAUL, MINNESOTA 55114

TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116

REVIEWS		
DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TUL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

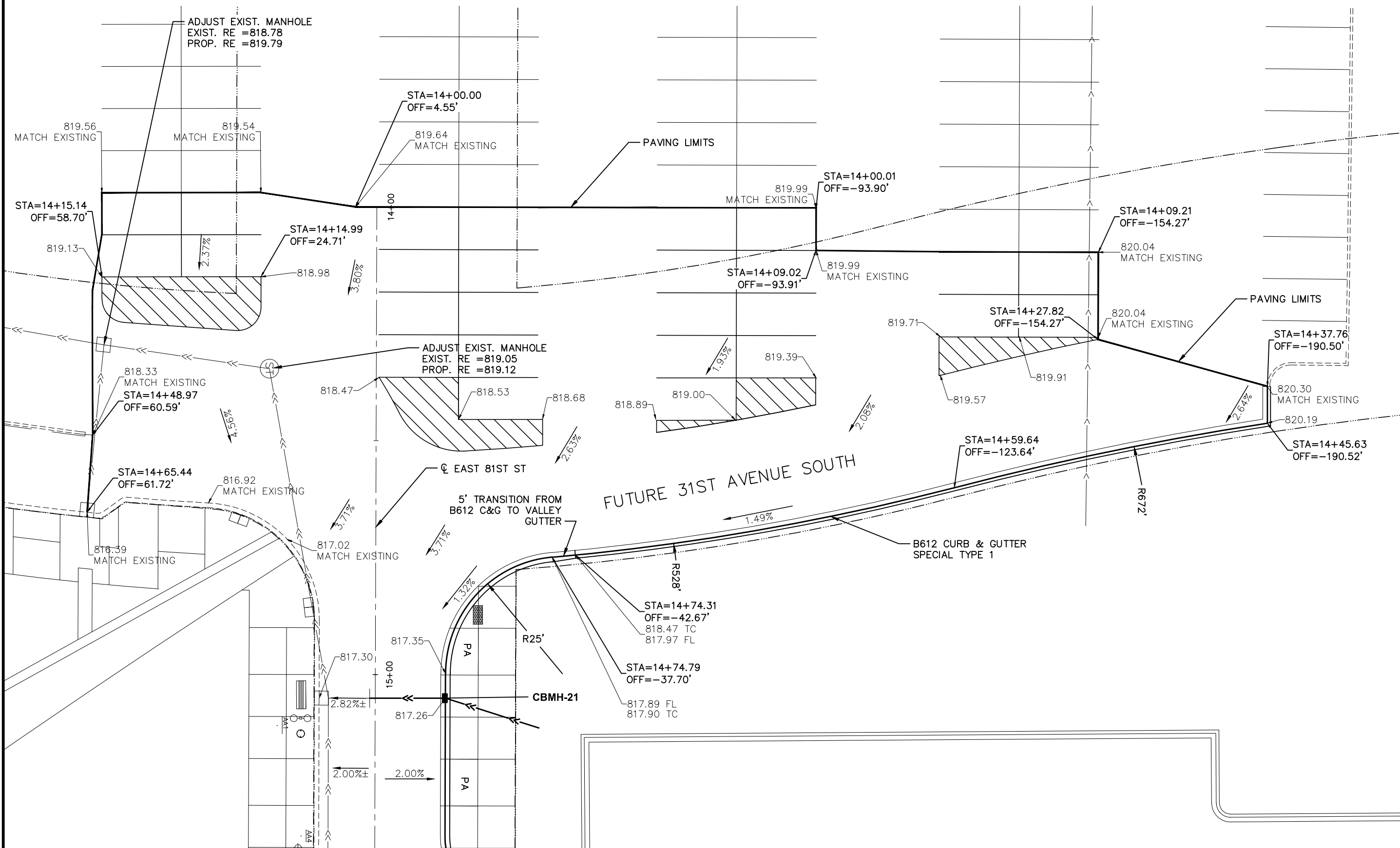
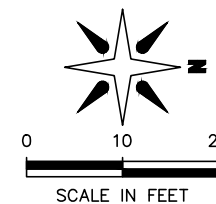
Thomas J. Lincoln 21433 6/10/14
THOMAS J. LINCOLN LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
34 OF 83

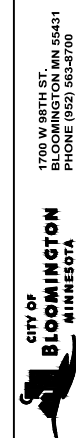
1. CURB ELEVATIONS ARE TO FLOW LINE (FL) UNLESS OTHERWISE NOTED.
2. TOP OF CURB ELEVATION = TC.

EAST 81ST STREET & FUTURE 31ST AVENUE



**BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304**

EAST 81ST STREET & FUTURE
31ST AVENUE INTERSECTION PLAN



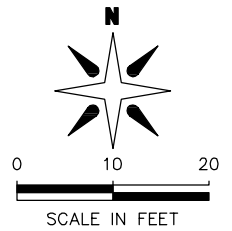
**Kimley-Horn
and Associates, Inc.**

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.	DRAWN: LMM CHECKED: BRE APPROVED: TJL		21433 6/10/14 LIC. # DATE <i>Thomas J. Lincoln</i> THOMAS J. LINCOLN		REVISIONS
					DATE 06/10/2014
					DESCRIPTION ISSUED FOR BID
					BY TJL

Drawing name: K:\TWC_Civil\City\Bloomington\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_INT02.dwg -- Printed: Jun 10, 2014 -- 12:01pm

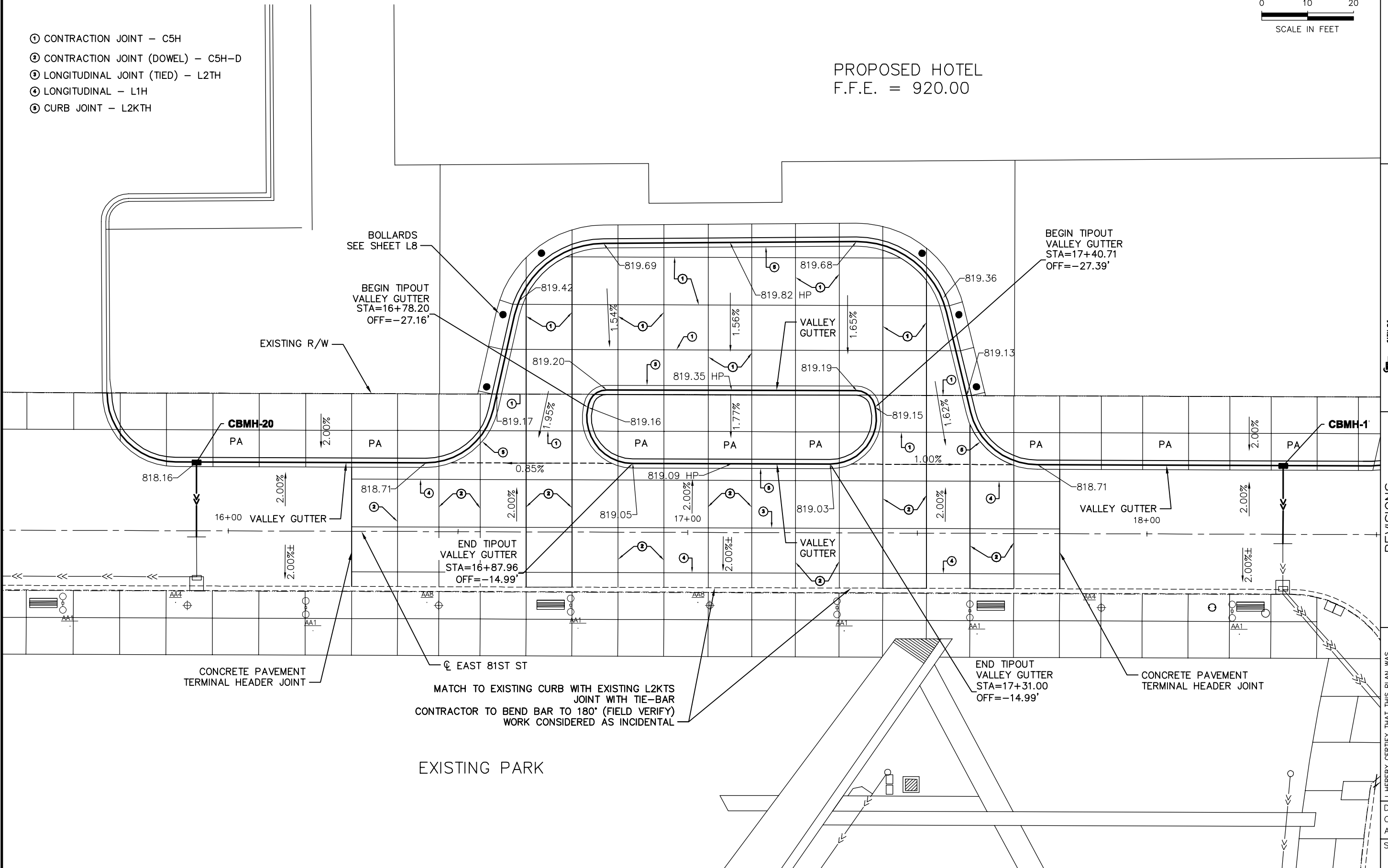
- NOTES:
1. CURB ELEVATIONS ARE TO FLOW LINE (FL) UNLESS OTHERWISE NOTED.
 2. ALL JOINTING CONSIDERED AS INCIDENTAL.

EAST 81ST STREET & HOTEL DROP-OFF



- ① CONTRACTION JOINT - C5H
- ② CONTRACTION JOINT (DOWEL) - C5H-D
- ③ LONGITUDINAL JOINT (TIED) - L2TH
- ④ LONGITUDINAL - L1H
- ⑤ CURB JOINT - L2KTH

PROPOSED HOTEL
F.F.E. = 920.00



BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

EAST 81ST STREET & HOTEL
DROP-OFF PLAN

1700 W 10TH ST
BLOOMINGTON
MINNESOTA

1700 W 10TH ST
BLOOMINGTON MN 55431
PHONE (612) 882-8700

Kimley-Horn
and Associates, Inc.

2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114

TEL: (612) 445-4497
FAX: (612) 445-5116

REVISIONS		BY	DATE
DESCRIPTION	ISSUED FOR BID	TJL	06/10/2014

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SUPERVISION AND THAT I AM A LICENSED
PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

THOMAS J. LINCOLN

21433

6/10/14

DATE

DRAWN: LMM

CHECKED: BRE

APPROVED: TJL

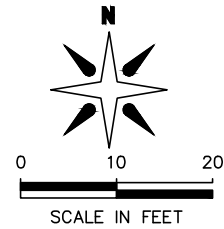
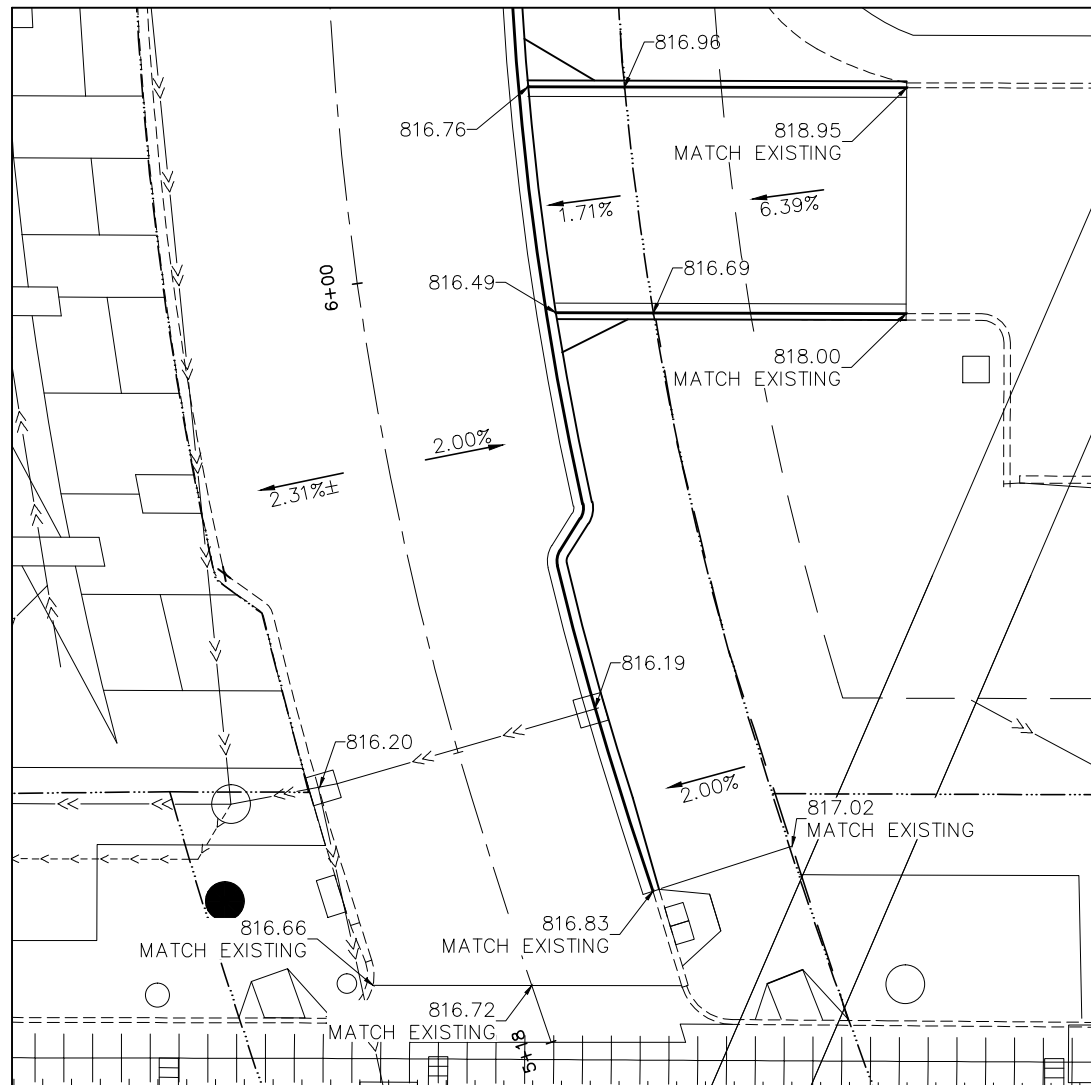
SHEET:

36 OF 83

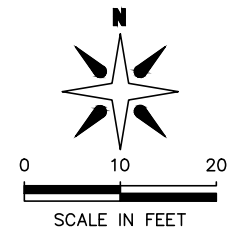
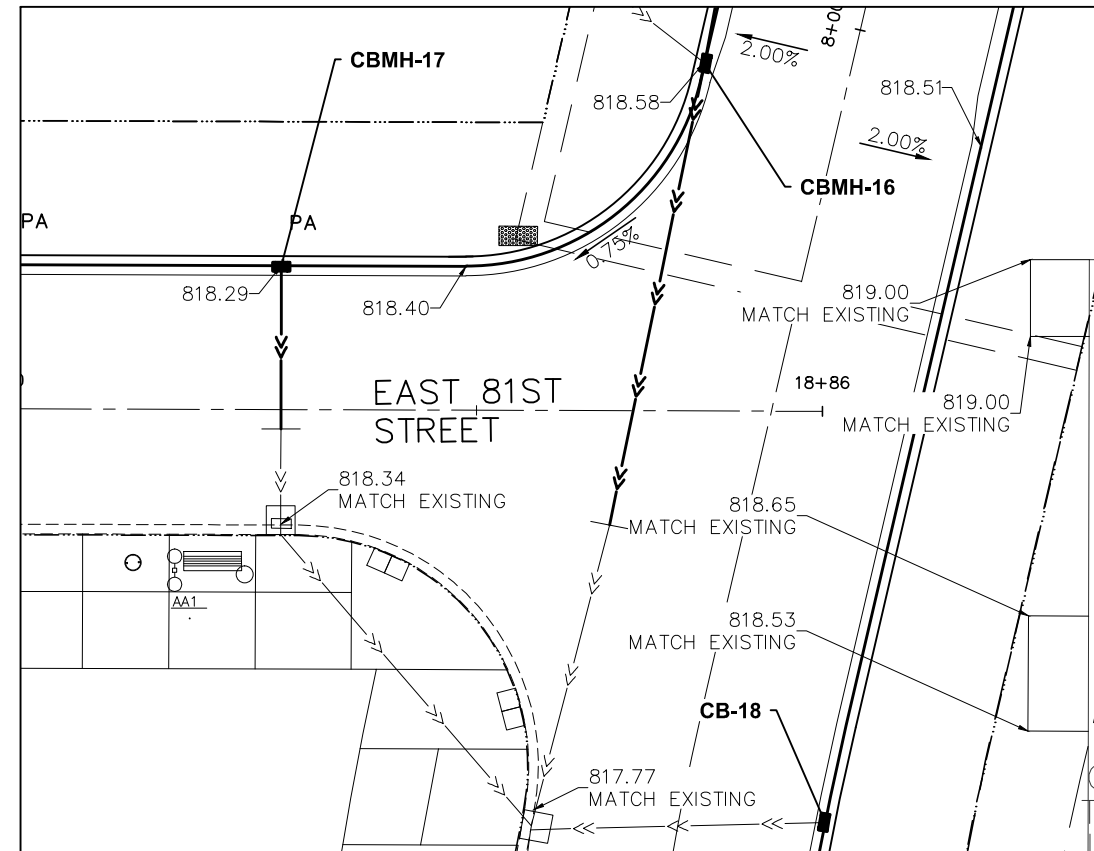
Drawing name: K:\TWC_Civil\City\Bloomington\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_INT03.dwg -- Printed: Jun 10, 2014 -- 8:15am

- NOTES:
1. CURB ELEVATIONS ARE TO FLOW LINE (FL) UNLESS OTHERWISE NOTED.
 2. TOP OF CURB ELEVATION = TC.

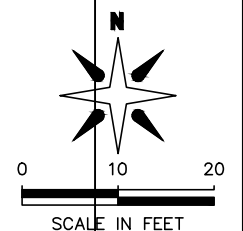
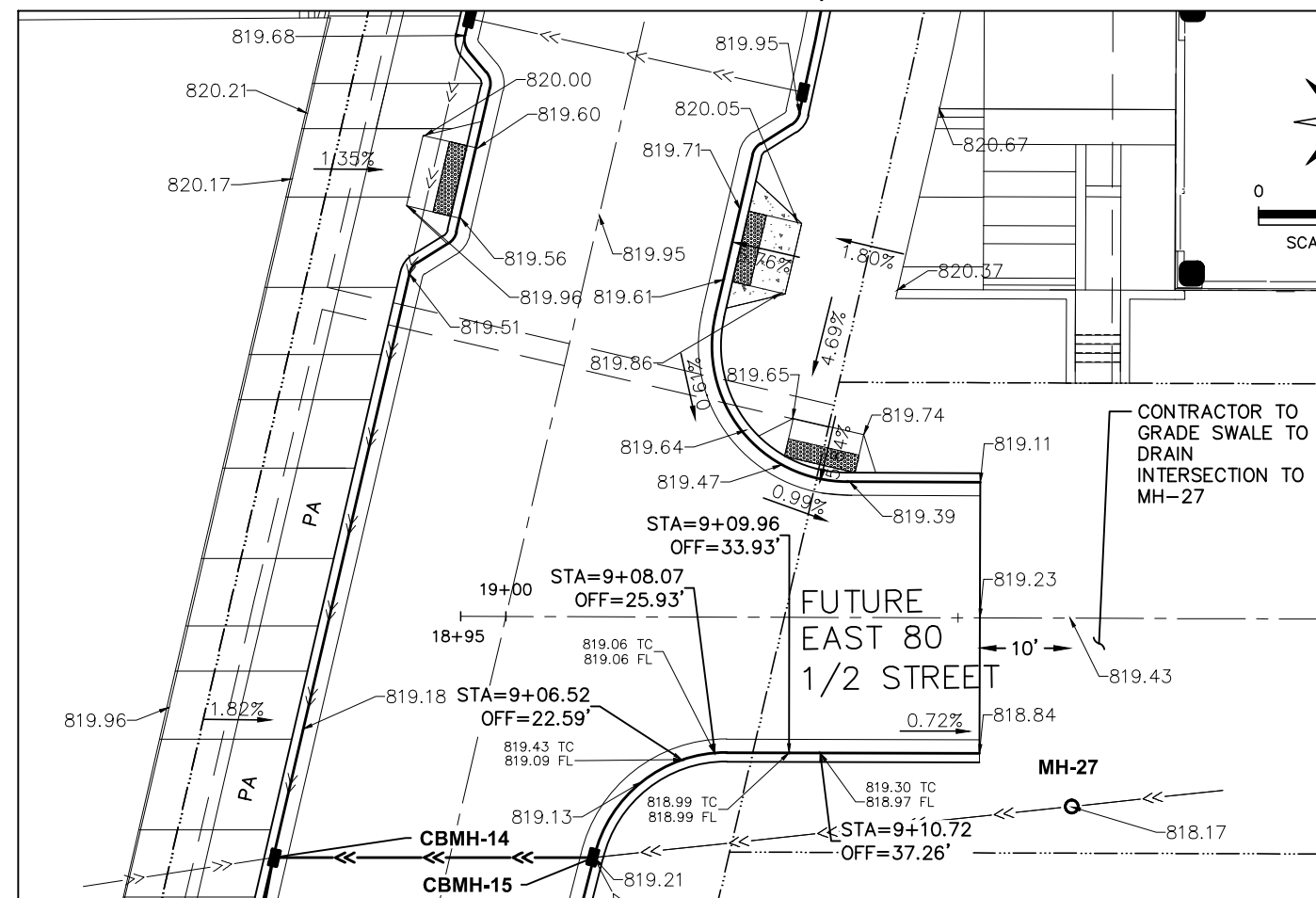
33RD AVENUE SOUTH & LRT TRACKS



33RD AVENUE SOUTH & EAST 81ST STREET



33RD AVENUE SOUTH & EAST 80 1/2 STREET



BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

CITY OF BLOOMINGTON
MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

Kimley-Horn
and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 645-5116

REVISIONS
DATE DESCRIPTION
06/10/2014 ISSUED FOR BID

HEREBY CERTIFY THAT THIS PLAN WAS
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PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

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APPROVED: TJL

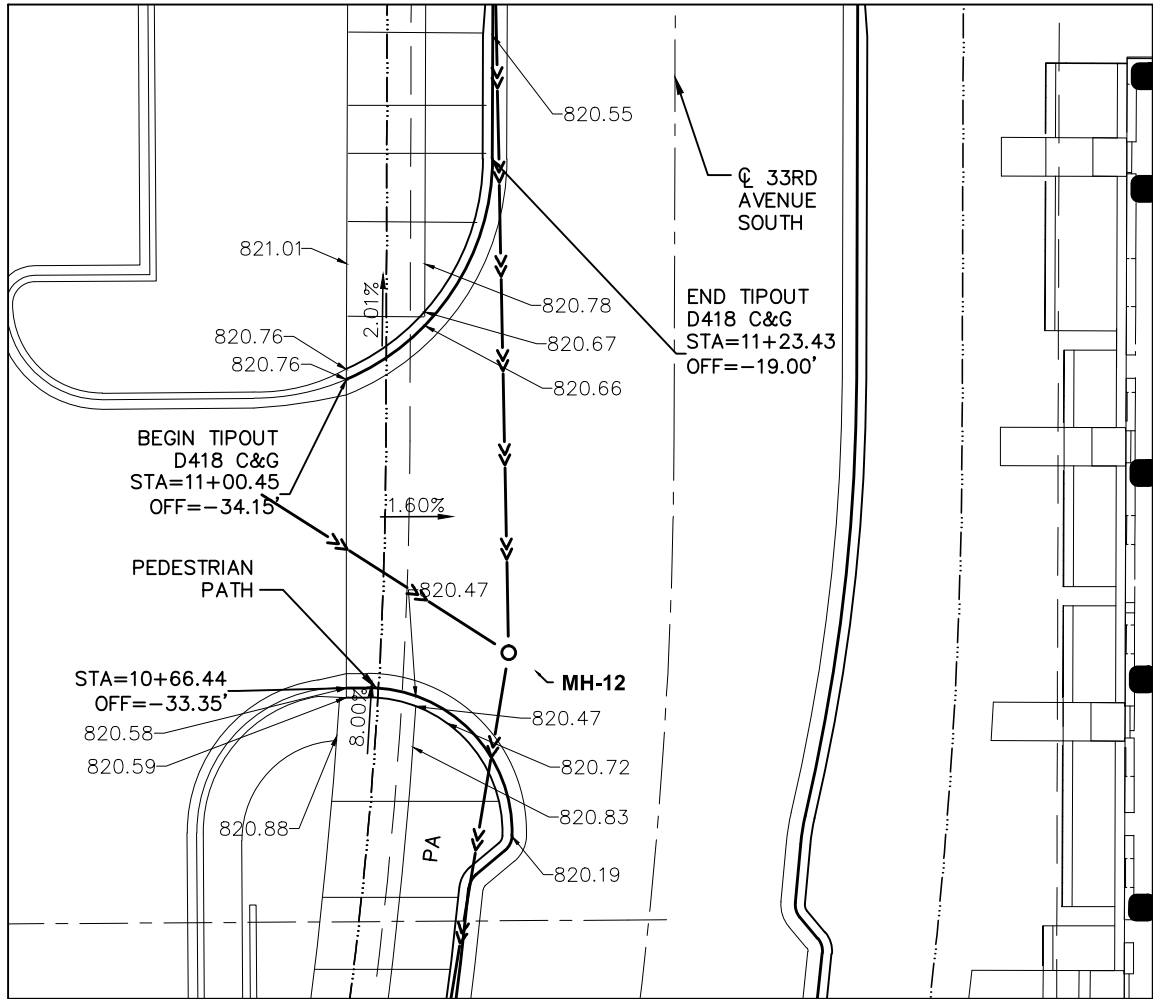
SHEET:
37 OF 83

THOMAS J. LINCOLN
21433
6/10/14
DATE

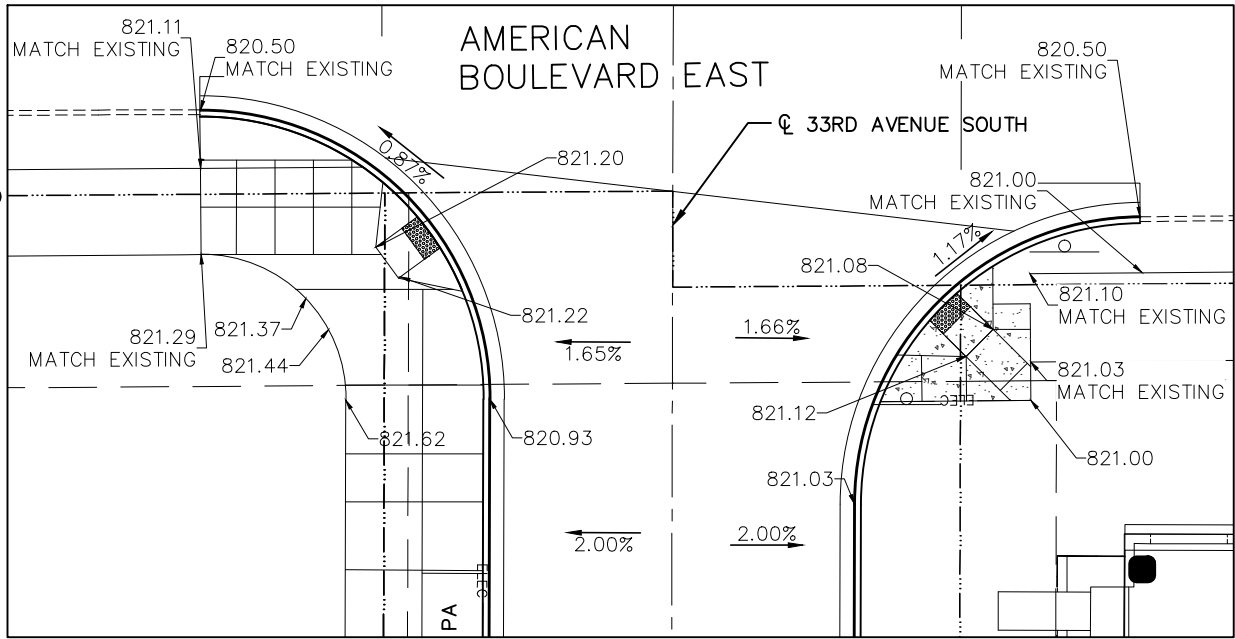
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- NOTES:
1. CURB ELEVATIONS ARE TO FLOW LINE (FL)
UNLESS OTHERWISE NOTED.
 2. TOP OF CURB ELEVATION = TC.

33RD AVENUE SOUTH & HOTEL ENTRANCE



33RD AVENUE SOUTH & AMERICAN BOULEVARD



REVISONS		DATE		BY	
DESCRIPTION		06/10/2014		TJL	
ISSUED FOR BID					

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SUPERVISION AND THAT I AM A LICENSED
PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

Thomas J. Lincoln
THOMAS J. LINCOLN 21433 6/10/14
LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
38 OF 83

CITY OF BLOOMINGTON MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (651) 563-8700

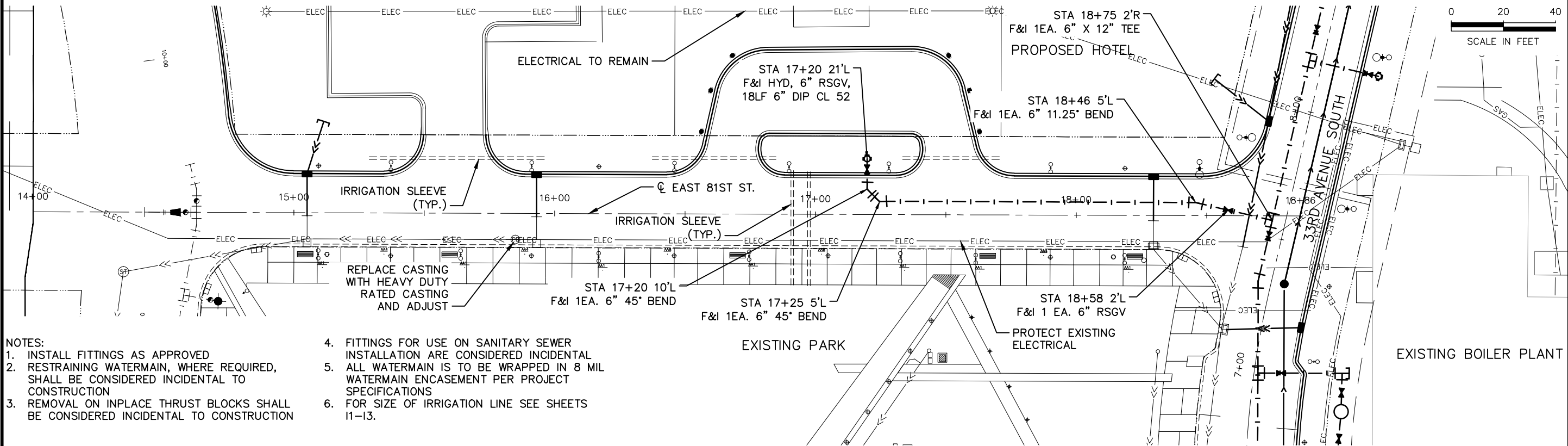
Kimley-Horn and Associates, Inc.
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ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

33RD AVENUE SOUTH
INTERSECTIONS

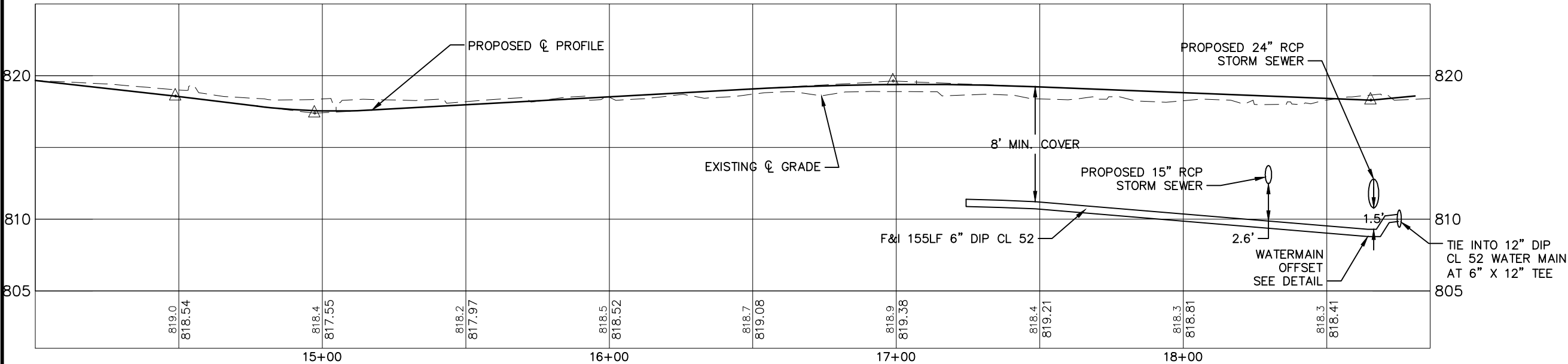
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EAST 81ST STREET
FROM STA. 14+00 TO STA. 18+86



- NOTES:
1. INSTALL FITTINGS AS APPROVED
 2. RESTRAINING WATERMAIN, WHERE REQUIRED, SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION
 3. REMOVAL ON INPLACE THRUST BLOCKS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION

4. FITTINGS FOR USE ON SANITARY SEWER INSTALLATION ARE CONSIDERED INCIDENTAL
5. ALL WATERMAIN IS TO BE WRAPPED IN 8 MIL WATERMAIN ENCASEMENT PER PROJECT SPECIFICATIONS
6. FOR SIZE OF IRRIGATION LINE SEE SHEETS I1-I3.



REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

THOMAS G. LINCOLN
21433
6/10/14
DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
39 OF 83

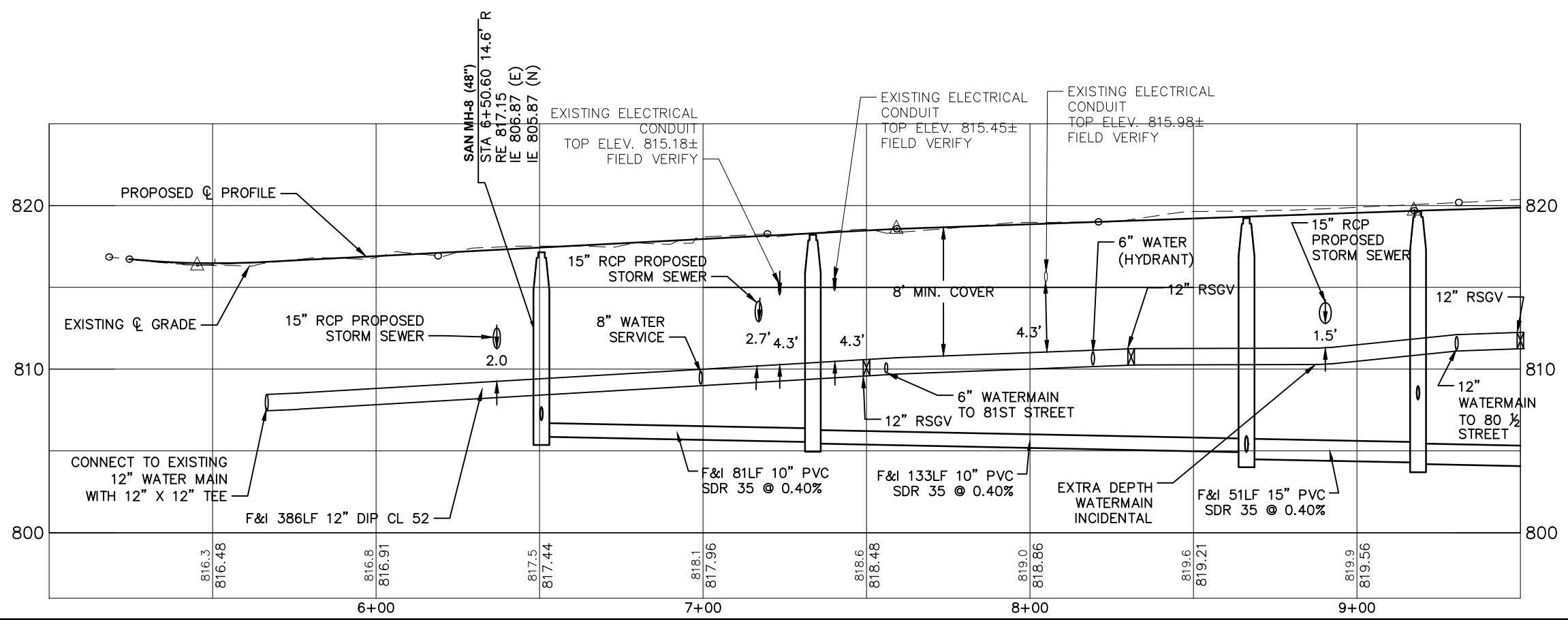
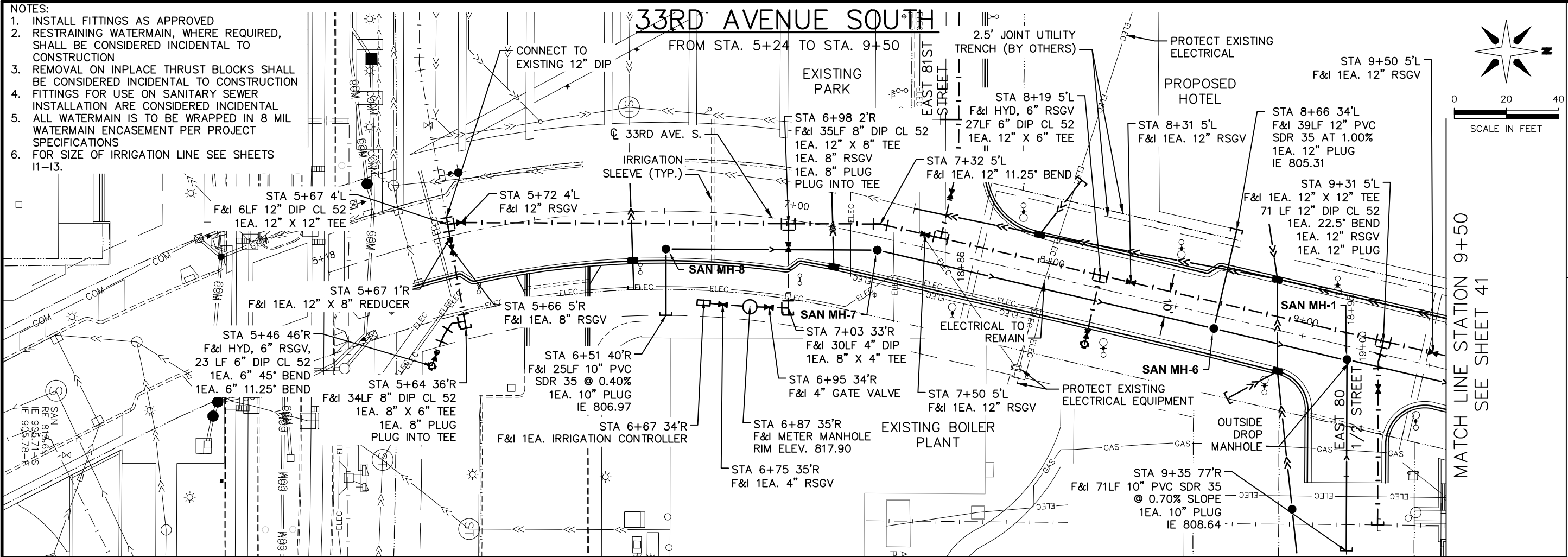
CITY OF
BLOOMINGTON
MINNESOTA
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 583-8700

Kimley-Horn
and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

EAST 81ST STREET WATER AND
SANITARY PLAN AND PROFILE
FROM STA. 14+00 TO STA. 18+86

Drawing name: K:\TWC_Civil\City\Bloomington\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_PPU02.dwg -- Printed: Jun 10, 2014 -- 8:17am



REVIEWS			
DATE	DESCRIPTION	BY	
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DATE	DATE
6/10/14	

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THOMAS G. LINCOLN
THOMAS G. LINCOLN
21433
LIC. #
DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET: 40 OF 83

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT 2013-304

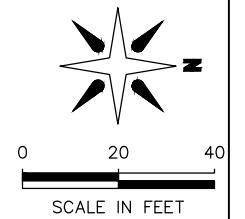
33RD AVENUE WATER AND SANITARY PLAN AND PROFILE FROM STA. 5+24 TO STA. 9+50

City of Bloomington Minnesota
1700 W 98TH ST. BLOOMINGTON MN 55431
PHONE (651) 563-8700

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 645-5116

33RD AVENUE SOUTH

FROM STA. 9+50 TO STA. 13+84



BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

33RD AVENUE WATER AND
SANITARY PLAN AND PROFILE

FROM STA. 9+50 TO STA. 13+84

BLOOMINGTON
MINNESOTA



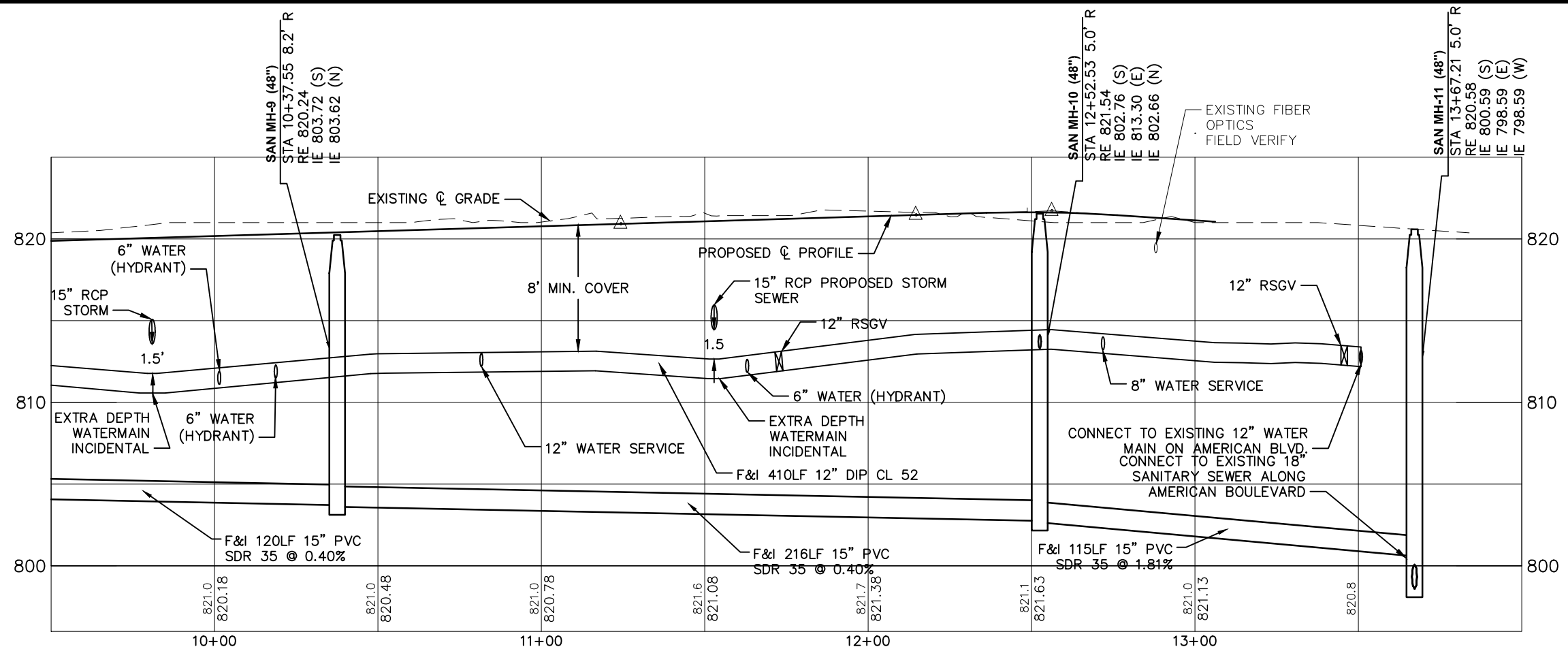
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (612) 963-6700

**Kimley-Horn
and Associates, Inc.**



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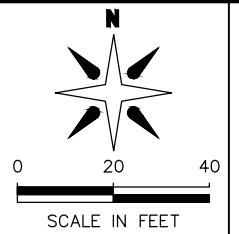
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FAX NO. (612) 645-5116



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CHECKED: BRE					
APPROVED: TJL					
SHEET:					
41 OF 83					

FROM STA. 14+00 TO STA. 18+86

FROM STA. 14+00 TO STA. 18+86



**BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013--304**

EAST 81ST STREET STORM SEWER PLAN AND PROFILE FROM STA. 14+00 TO STA. 18+86

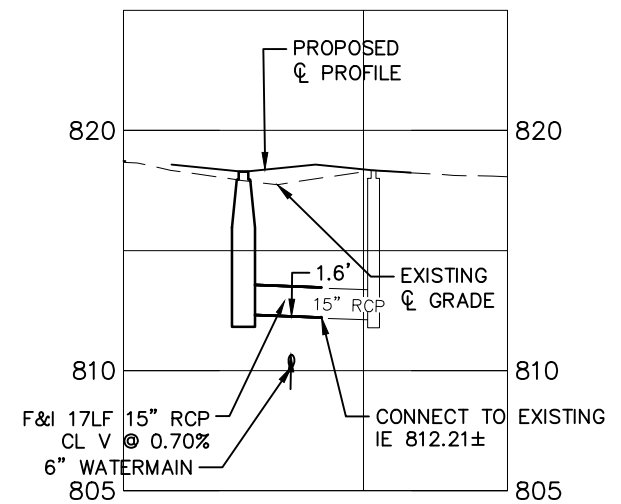
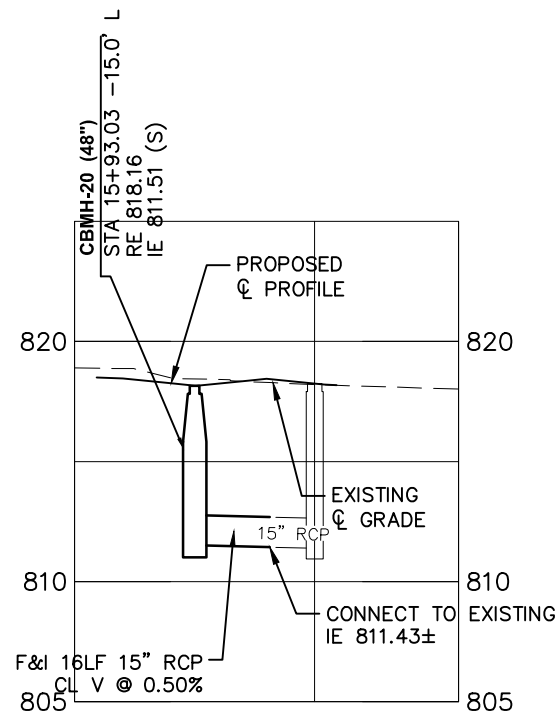
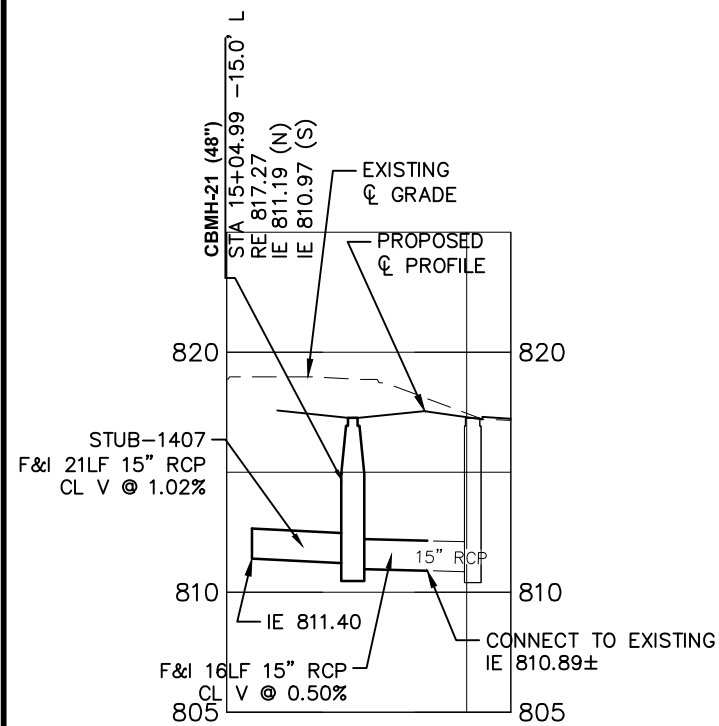
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BLOOMINGTON
MINNESOTA

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BLOOMINGTON MN 55431
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KIMLEY-HORN
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TEL. NO. (651) 645-4197
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2550 UNIVERSITY AVE. WEST, SUITE 238N
ST. PAUL, MINNESOTA 55114

KIMLEY-HORN
and Associates, Inc.
TEL. NO. (651) 645-4197
FAX. NO. (651) 645-5116
2550 UNIVERSITY AVE. WEST, SUITE 238N
ST. PAUL, MINNESOTA 55114

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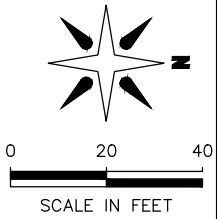
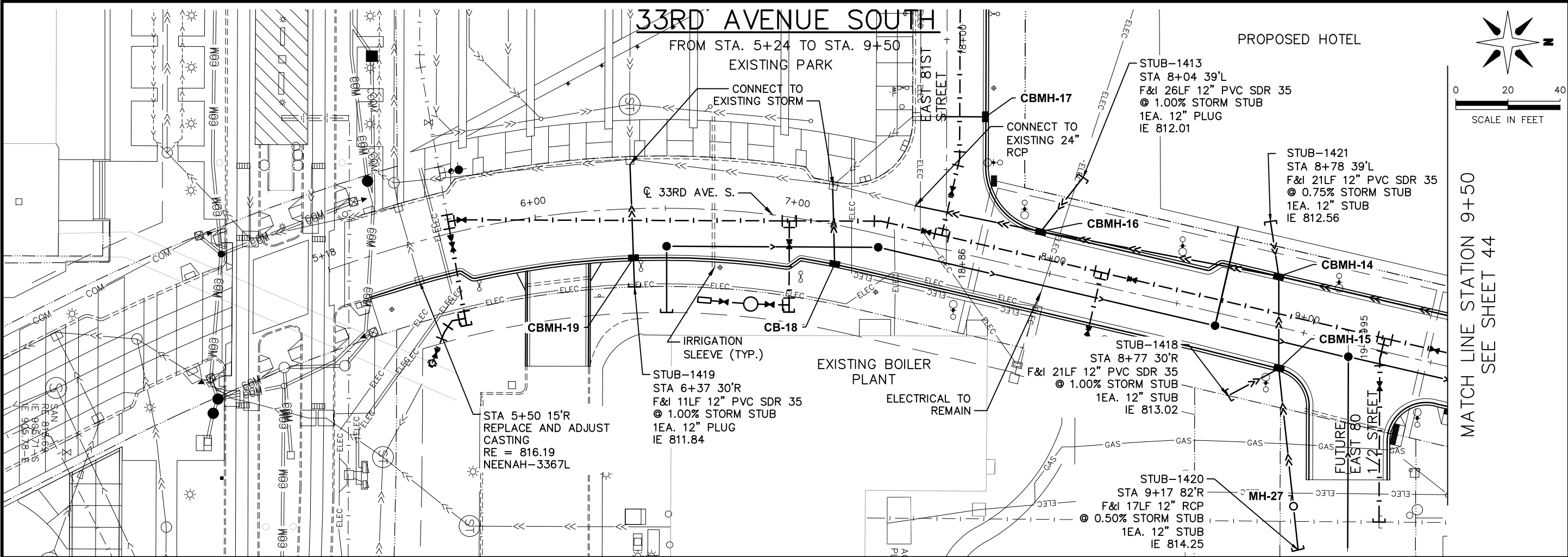
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Thomas J. Lincol 21433 6/10/14
 THOMAS J. LINCOLN LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

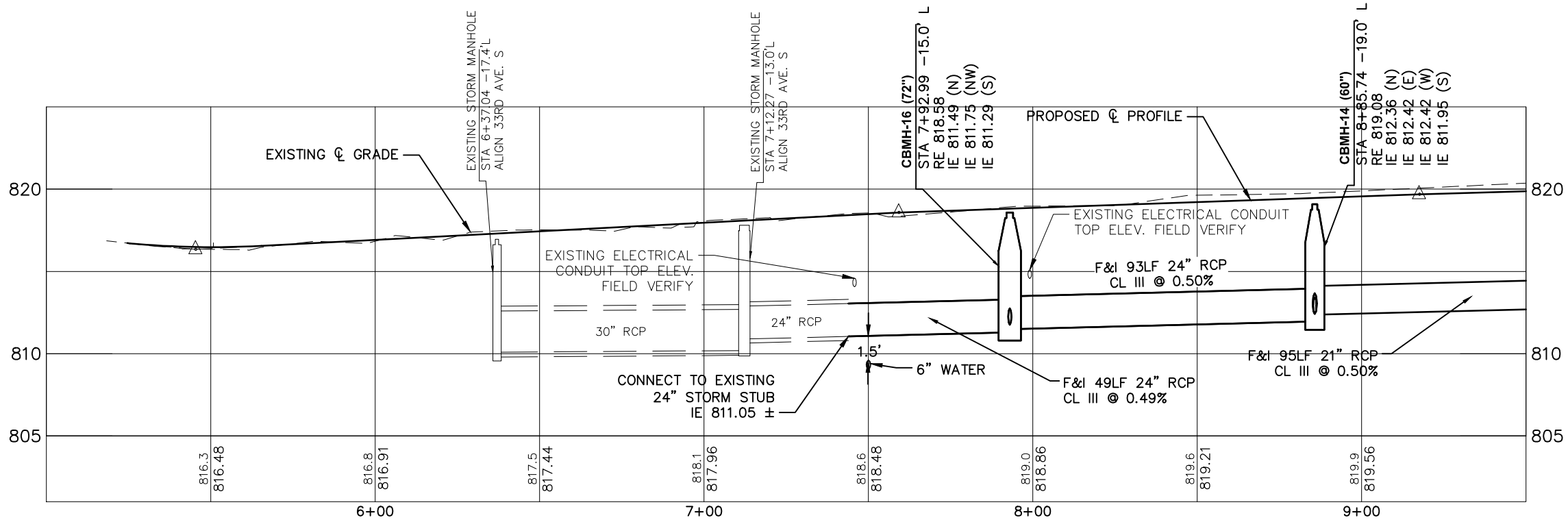
SHEET:
42 OF 83

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MATCH LINE STATION 9+50
SEE SHEET 44

NOTE:
SEE SHEET 45 FOR STORM SEWER LATERALS



REVISIONS			DATE		BY	
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1	ISSUED FOR BID		06/10/2014	TJL		TJL

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THOMAS G. LINCOLN

21433

6/10/14

DATE

DRAWN: LMM

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APPROVED: TJL

SHEET:

43 OF 83

CITY OF
BLOOMINGTON
MINNESOTA

1700 W 98TH ST
BLOOMINGTON MN 55431
PHONE (652) 563-8700

Kimley-Horn
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2550 UNIVERSITY AVE. WEST, SUITE 230A
ST. PAUL, MINNESOTA 55114
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BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

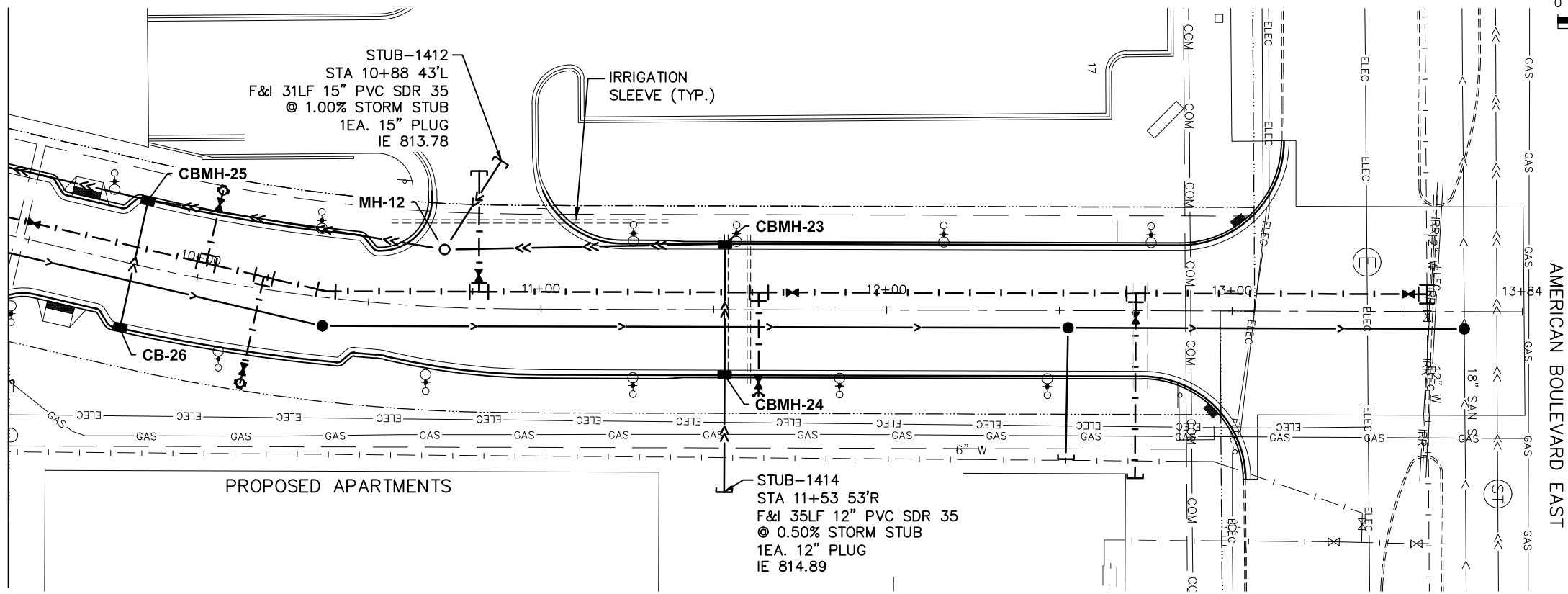
33RD AVENUE SOUTH STORM
SEWER PLAN AND PROFILE
FROM STA. 5+24 TO STA. 9+50

Drawing name: K:\TWC_Civil\City\Bloomington\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_STM02.dwg -- Printed: Jun 10, 2014 -- 8:18am

33RD AVENUE SOUTH

FROM STA. 9+50 TO STA. 13+84

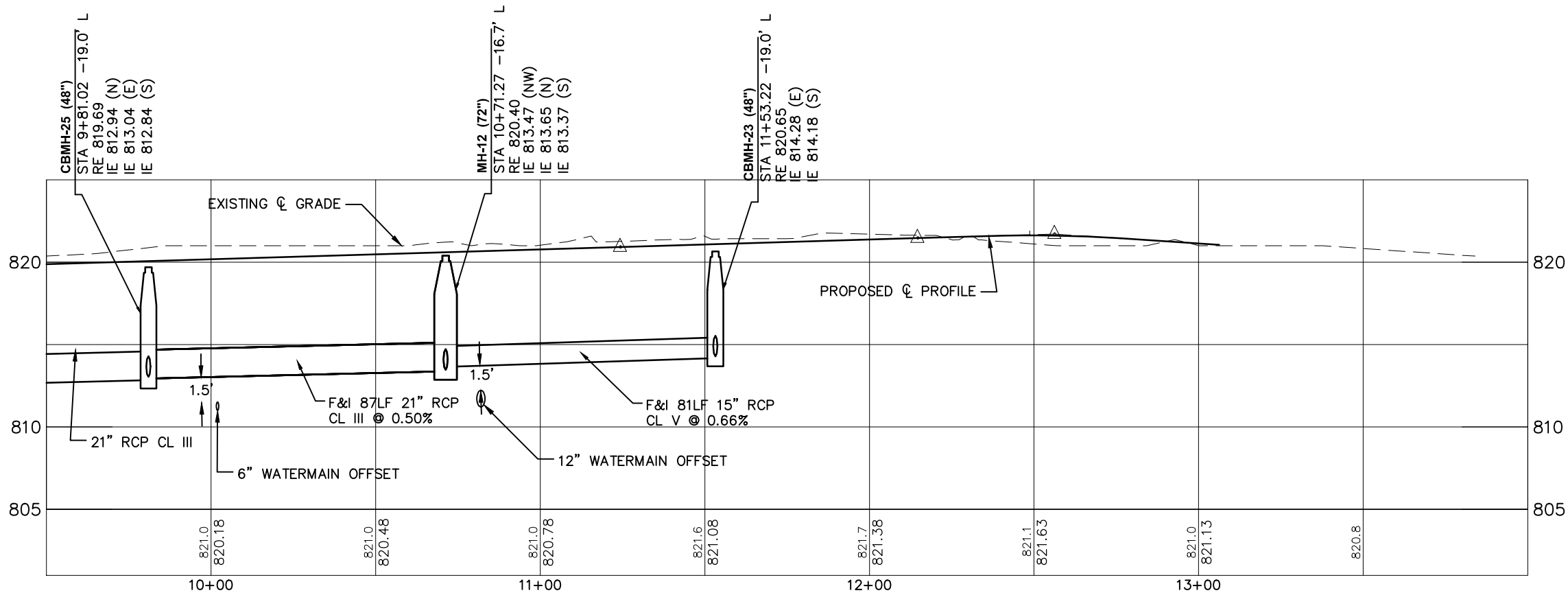
MATCH LINE STATION 9+50
SEE SHEET 43



0 20 40
SCALE IN FEET

AMERICAN BOULEVARD EAST

NOTE: SEE SHEET 45 FOR STORM SEWER LATERALS



REVISIONS

DATE	DESCRIPTION	BY
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SUPERVISOR OR PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE STATE OF MINNESOTA.

THOMAS G. LINCOLN
21433
LIC. #
DATE
6/10/14

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
44 OF 83



1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700

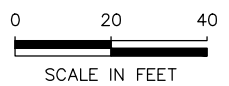
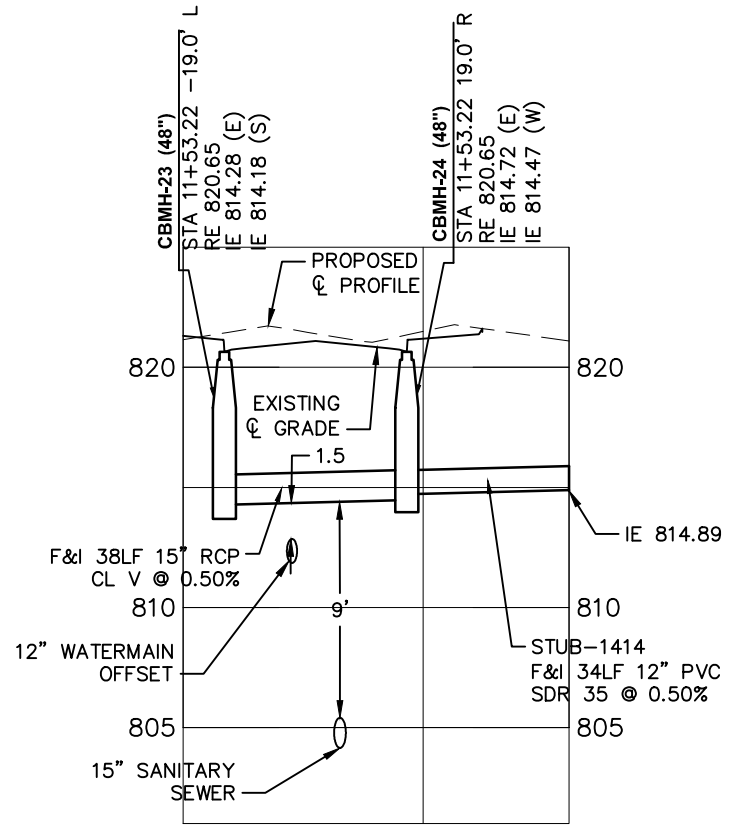
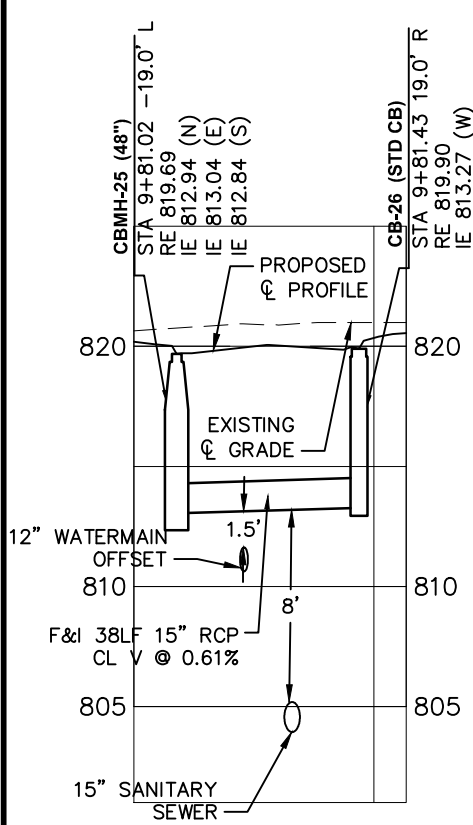
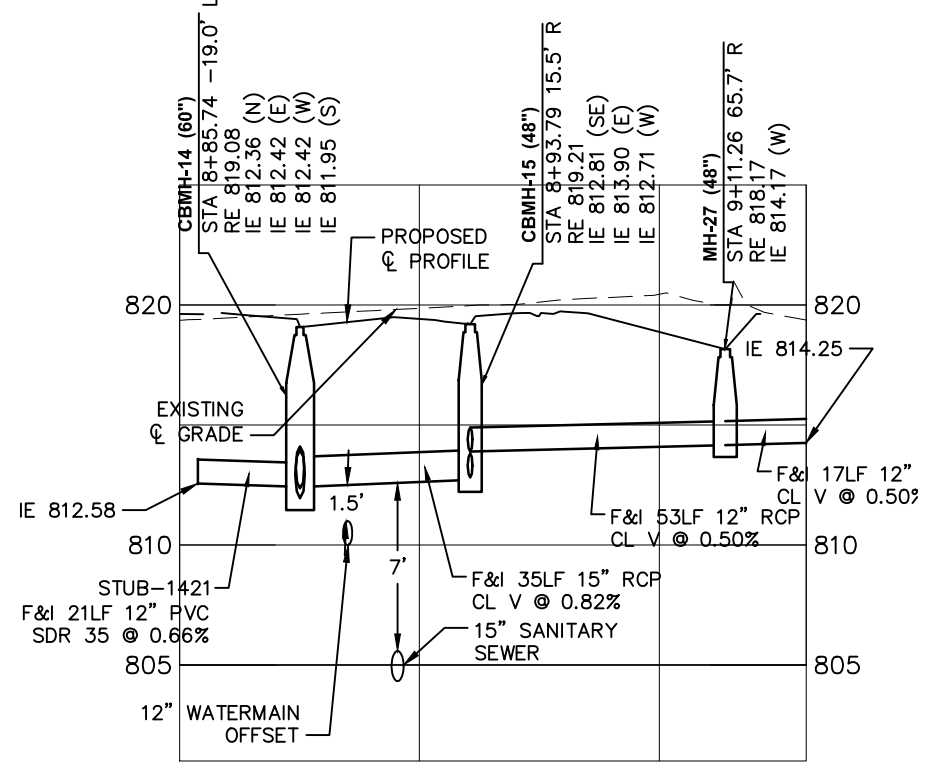
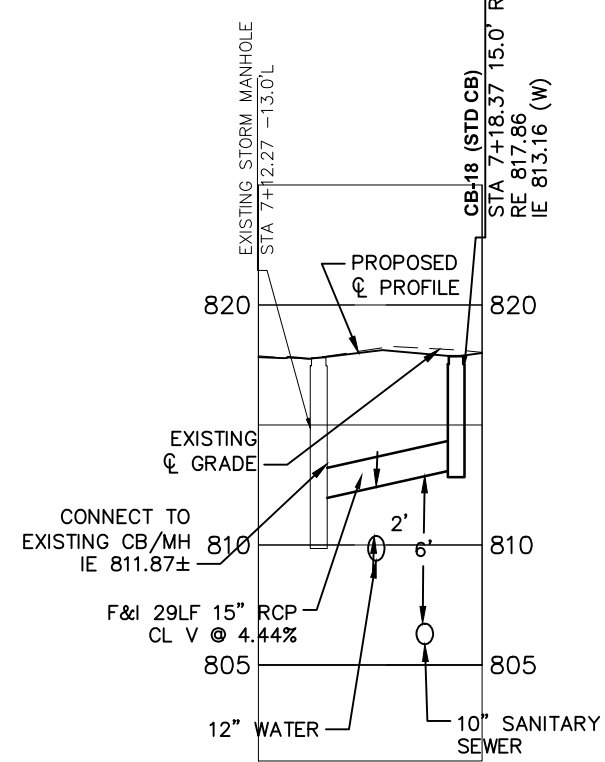
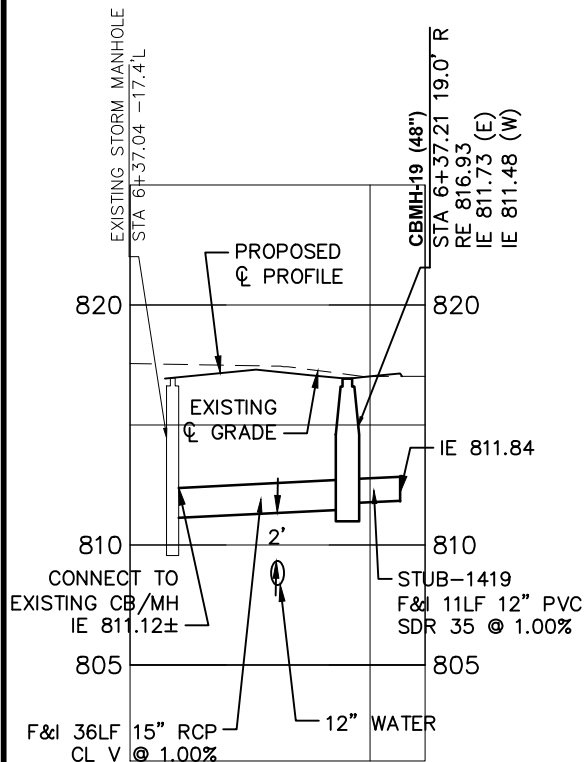


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BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

33RD AVENUE SOUTH STORM
SEWER PLAN AND PROFILE
FROM STA. 9+50 TO STA. 13+84

33RD AVENUE SOUTH




REVISIONS			DATE		BY	
NO.	DESCRIPTION	ISSUED FOR BID	DATE	DESCRIPTION	ISSUED FOR BID	DATE
1	ISSUED FOR BID		06/10/2014	TJL		
2						
3						
4						
5						
6						
7						
8						
9						
10						

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THOMAS G. LINCOLN 21433 6/10/14 DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
45 OF 83



CITY OF BLOOMINGTON
MINNESOTA



Kimley-Horn and Associates, Inc.

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BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

33RD AVENUE SOUTH LATERAL
SECTION VIEWS

FROM STA. 6+37 TO STA. 11+53

Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_TAB01.dwg -- Printed: Jun 10, 2014 -- 8:19am


DRAINAGE TABULATION

STRUCTURE NUMBER	FLOW LINE LOCATION				STRUCTURE DESIGN	STRUCTURE				LOW STRUCTURE ELEV.	PAY HEIGHT	DRAINS TO			10" PVC PIPE SEWER	12" PVC PIPE SEWER	15" PVC PIPE SEWER	12" RC PIPE SEWER DES 3006 CL V	15" RC PIPE SEWER DES 3006 CL V	21" RC PIPE SEWER DES 3006 CL III	24" RC PIPE SEWER DES 3006 CL III	PRECAST PLUG	CONNECT TO EXIST. STORM SEWER	CONNECT TO EXIST. DRAINAGE STRUCTURE
	ALIGNMENT	STATION	OFFSET			TOP OF CASTING ELEV.	CASTING ASSEMBLY TYPE	STEPS REQ'D	OUTLET ELEV.			STR. NO.	% GRADE	INLET ELEV.										
			LT.	RT.						FEET	FEET				LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	LIN FT	EACH	EACH	EACH	
STUB-1419	33RD AVE. S	6+37.22		30.00	N/A	N/A	N/A					CBMH-19	1.00	811.73		11						1		
CBMH-19	33RD AVE. S	6+37.21		19.00	4020 - 48"	816.93	R-3362-L	N	811.48	811.48	5.45	EXISTING CB	1.00	811.12				36						1
CB-18	33RD AVE. S	7+18.37		15.00	2' x 3'	817.86	R-3362-L	N	813.16	813.16	4.70	EXISTING CB	4.44	811.77				29						1
STUB-1413	33RD AVE. S	8+03.90	38.60		N/A	N/A	N/A					CBMH-16	1.00	811.75		26						1		
CBMH-16	33RD AVE. S	7+92.99	15.00		4020 - 72"	818.58	R-3067-L	N	811.29	811.29	7.29	EXISTING CB	0.49	811.05						49		1		
CBMH-15	33RD AVE. S	8+93.79		15.52	4020 - 48"	819.21	R-3067-L	N	812.71	812.71	6.50	CBMH-14	0.82	812.42				35						
STUB-1421	33RD AVE. S	8+77.85	38.76		N/A	N/A	N/A					CBMH-14	0.66	812.42		21						1		
CBMH-14	33RD AVE. S	8+85.74	19.00		4020 - 60"	819.08	R-3067-L	N	811.95	811.95	7.16	CBMH-16	0.50	811.49							93			
CB-26	33RD AVE. S	9+81.43		18.97	2' x 3'	819.90	R-3067-L	N	813.27	813.27	6.63	CBMH-25	0.61	813.04				38						
CBMH-25	33RD AVE. S	9+81.02	19.00		4020 - 48"	819.69	R-3067-L	N	812.84	812.84	6.85	CBMH-14	0.50	812.36						95				
STUB-1412	33RD AVE. S	10+67.19	43.00		N/A	N/A	N/A					MH-12	1.00	813.47			31					1		
MH-12	33RD AVE. S	10+71.27	16.66		4020 - 60"	820.40	R-2296	N	813.37	813.37	7.03	CBMH-25	0.50	812.94						87				
STUB-1414	33RD AVE. S	11+53.22		40.00	N/A	N/A	N/A					CBMH-24	0.51	814.72		34						1		
CBMH-24	33RD AVE. S	11+53.22		19.00	4020 - 48"	820.65	R-3067-L	N	814.47	814.47	6.18	CBMH-23	0.50	814.28				38						
CBMH-23	33RD AVE. S	11+53.22	19.00		4020 - 48"	820.65	R-3067-L	N	814.18	814.18	6.47	MH-12	0.66	813.65				81						
STUB-1407	E81ST ST.	15+11.31	35.00		N/A	N/A	N/A					CBMH-21	1.02	811.19				21				1		
CBMH-21	E81ST ST.	15+04.99	15.00		4020 - 48"	817.27	R-3362-L	N	810.97	810.97	6.30	EXISTING CB	0.50	810.89				16					1	
CB-20	E81ST ST.	15+93.03	15.00		4020 - 48"	818.16	R-3362-L	N	811.51	811.51	6.64	EXISTING CB	0.50	811.43				16					1	
CB-17	E81ST ST.	18+29.63	15.00		4020 - 48"	818.29	R-3362-L	N	812.33	812.33	5.96	EXISTING CB	0.70	812.21				17					1	
STUB-1418	33RD AVE. S	8+77		30.00	N/A	N/A	N/A					CHMH-15	1.00	812.81		21						1		
STUB-1420	33RD AVE. S	9+17		82.00	N/A	N/A	N/A					MH-27	0.50	814.17				17				1		
MH-27	33RD AVE. S	9+11.86		65.70	4020-48"	818.17	R-2561	N	814.17	814.17	4.00	CBMH-15	0.50	813.90				53						
									TOTALS						0	113	31	70	327	182	142	8	4	2

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL


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THOMAS J. LINCOLN

21433 6/10/14
LIC. # DATE


DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
46 OF 83



CITY OF
BLOOMINGTON
MINNESOTA

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (652) 563-8700



Kimley-Horn
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2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

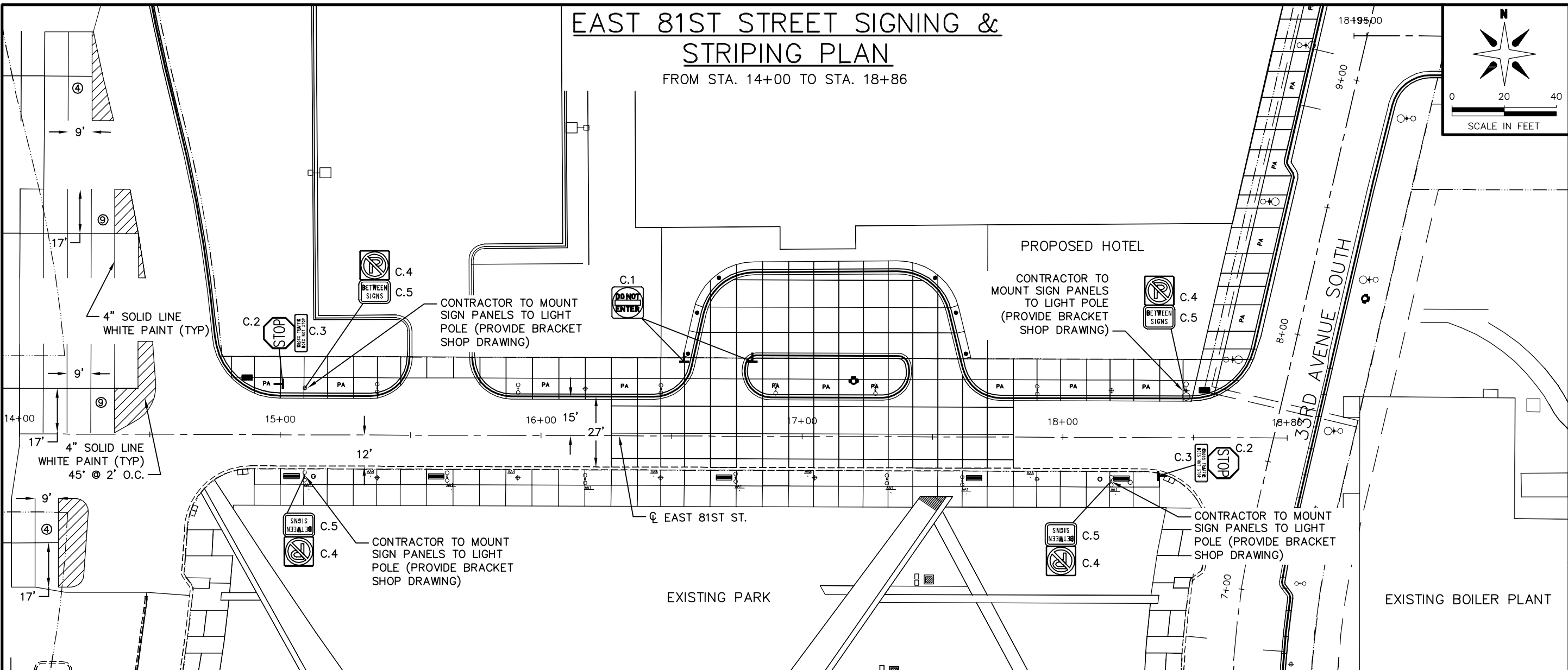
BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

DRAINAGE TABULATION

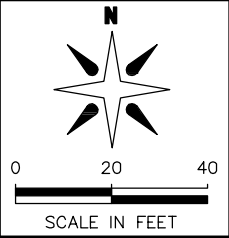
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EAST 81ST STREET SIGNING & STRIPING PLAN

FROM STA. 14+00 TO STA. 18+86



PAVEMENT MARKING LEGEND	
	4" BROKEN LINE YELLOW
	4" SOLID LINE YELLOW
	4" DOUBLE SOLID LINE YELLOW
	4" BROKEN LINE WHITE
	4" SOLID LINE WHITE
	8" BROKEN LINE WHITE
	8" DOTTED LINE WHITE
	8" SOLID LINE WHITE
	12" SOLID LINE YELLOW
	24" SOLID LINE WHITE
	WHITE TYPE 1 PAVEMENT MESSAGE (ARROWS) EPOXY
	ZEBRA CROSSWALK (3'x6' TYPICAL)
	PARKING SPACES



BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

CITY OF BLOOMINGTON
MINNESOTA
1700 W. 10TH ST.
BLOOMINGTON, MN 55431
PHONE (651) 882-8700

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 445-4497
FAX. NO. (651) 445-5116

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DATE	DESCRIPTION	BY
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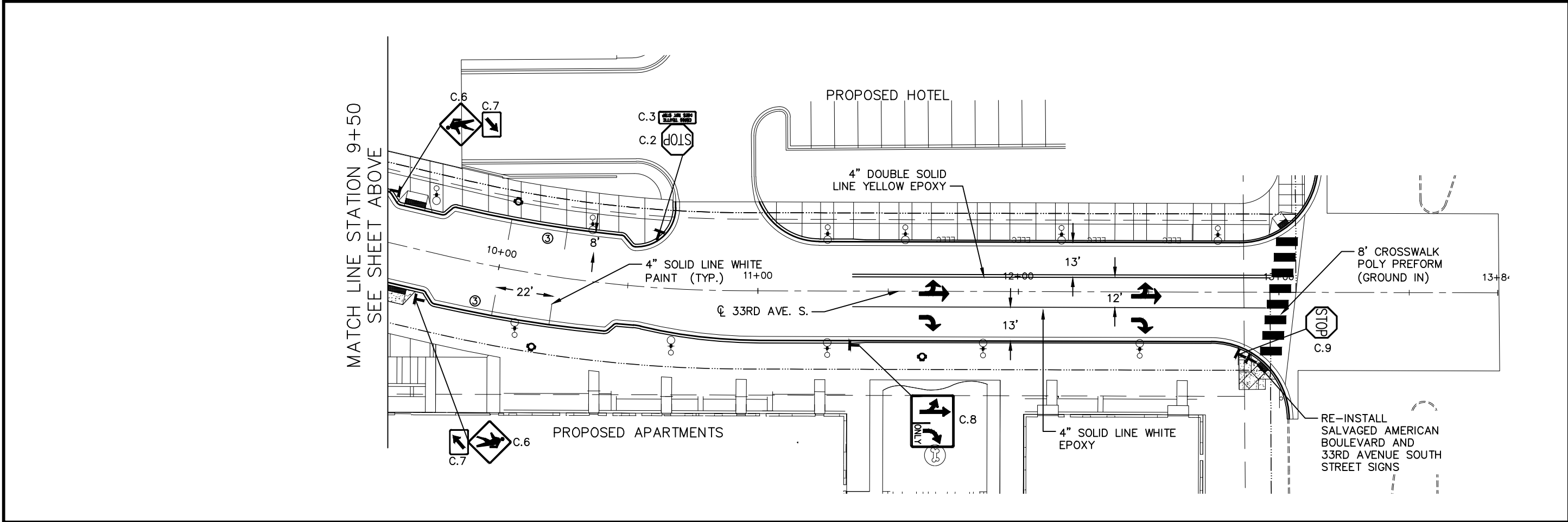
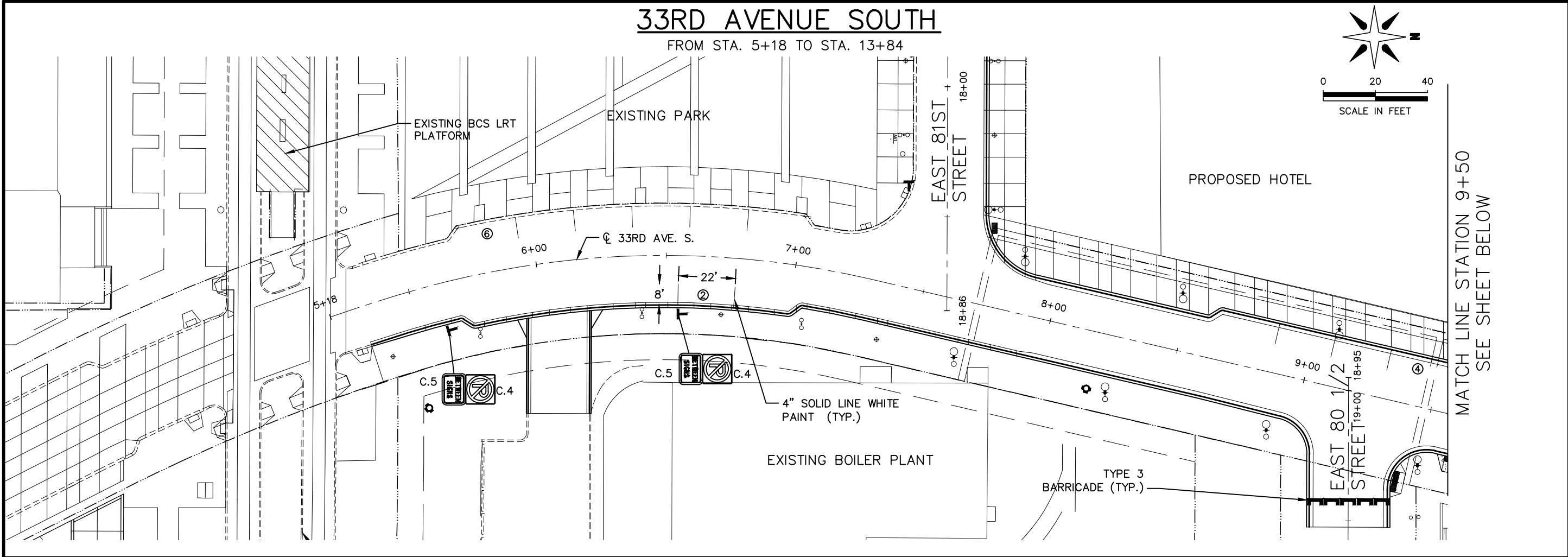
Thomas J. Lincoln
THOMAS J. LINCOLN 21433 6/10/14
LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
47 OF 83

EAST 81ST STREET SIGNING & STRIPING PLAN
FROM STA. 14+00 TO STA. 18+86

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CITY PROJECT 2013-304

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CITY OF BLOOMINGTON
MINNESOTA

Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
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REVISIONS		DATE	BY
DESCRIPTION	ISSUED FOR		
		06/10/2014	TJL

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THOMAS G. LINCOLN 21433 6/10/14
LIC. # DATE

DRAWN: LMM
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APPROVED: TJL

SHEET:
48 OF 83

GROUND POST-MOUNTED SIGN
TYPICAL INSTALLATION
Sign_Ground_Mount.dwg 10/2012

SIGNING TABULATION & DETAILS

TOTALS

SALVAGED SIGN PANELS TYPE "C"

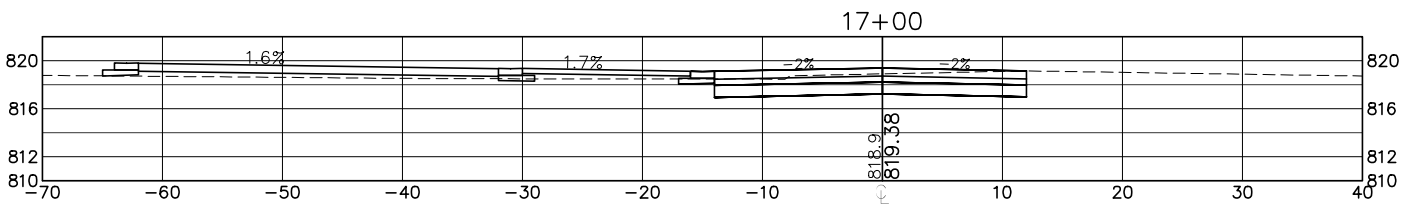
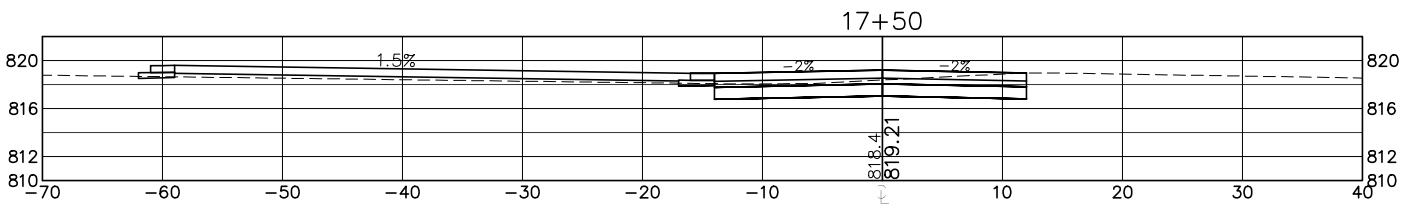
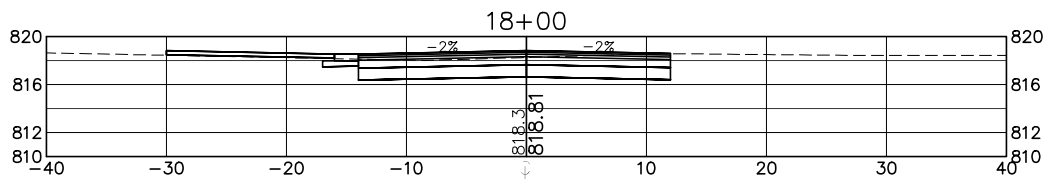
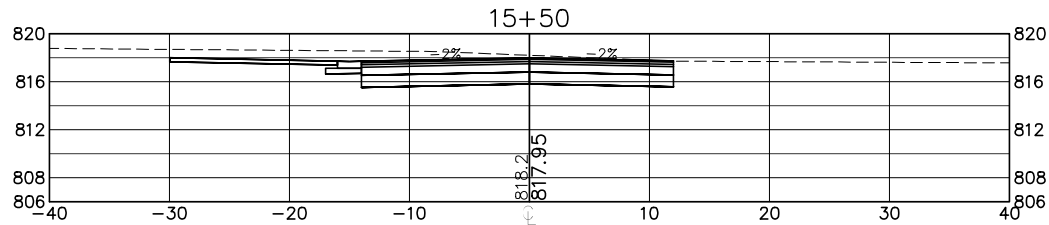
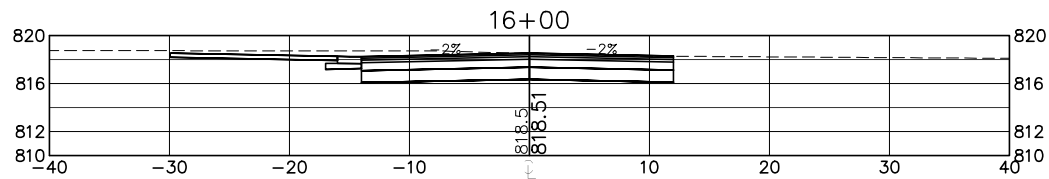
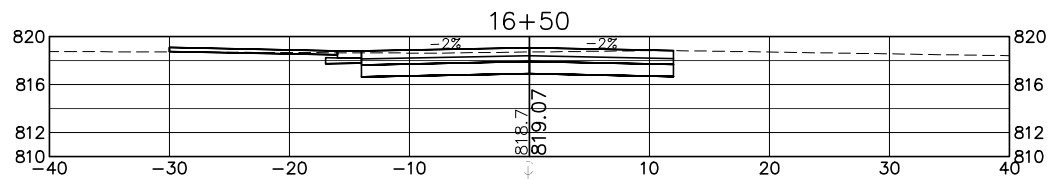


ISLAND MOUNT BREAK-AWAY SIGN
TYPICAL INSTALLATION
Sign_Concrete_Mount.dwg 10/2012

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EAST 81ST STREET CROSS SECTIONS




REVISIONS		
DATE	DESCRIPTION	BY
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Thomas J. Lincoln
THOMAS J. LINCOLN 21433 6/10/14
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SHEET:
50 OF 83



CITY OF BLOOMINGTON
MINNESOTA



Kimley-Horn and Associates, Inc.
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (952) 563-8700

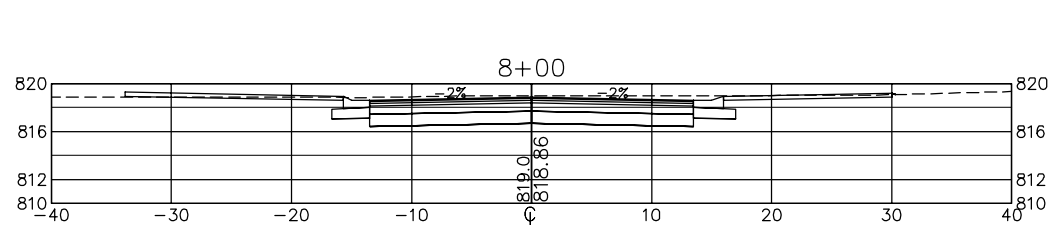
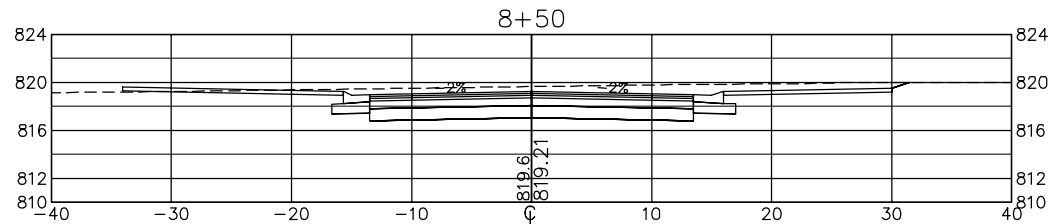
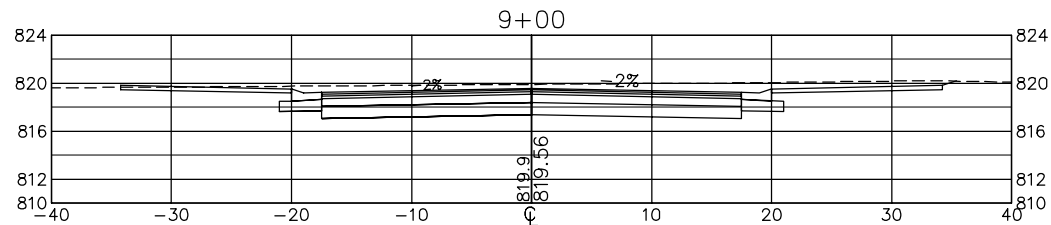
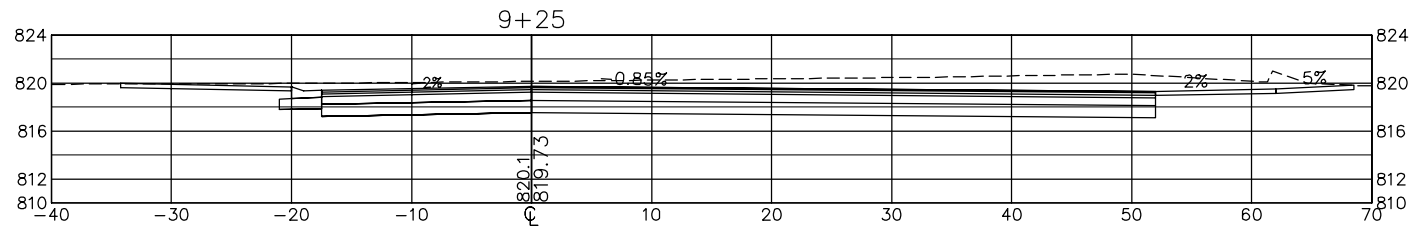
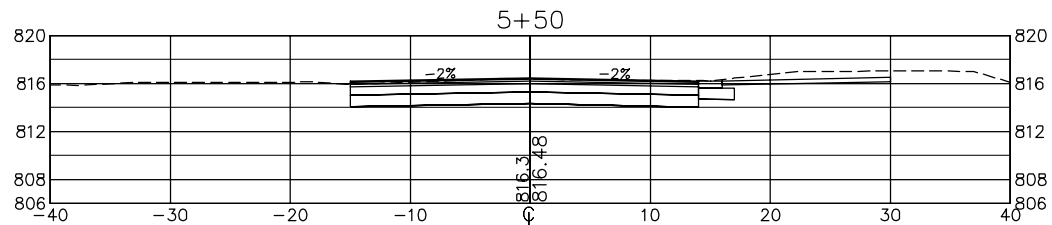
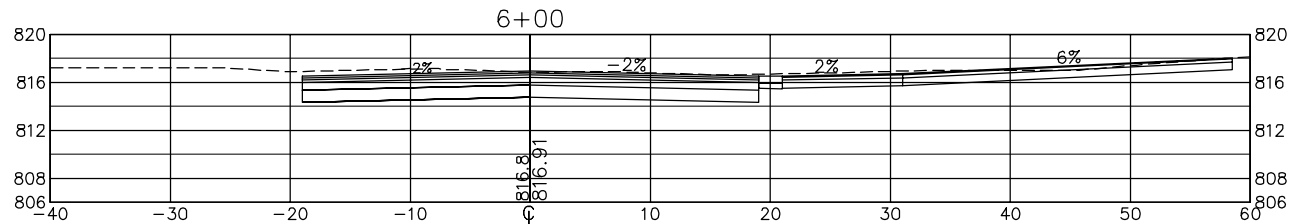
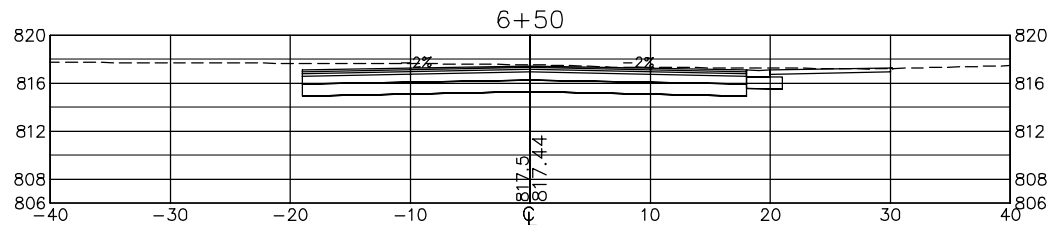
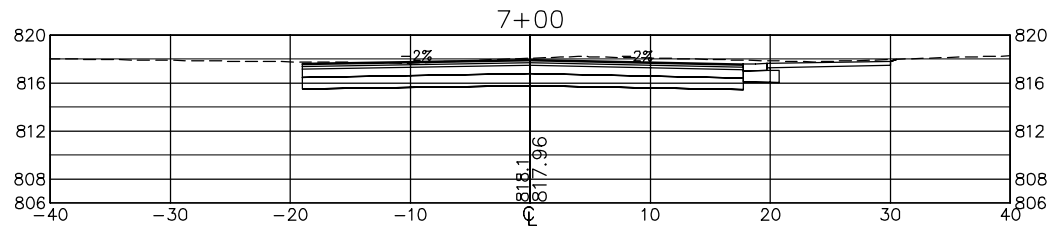
BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT 2013-304

EAST 81ST STREET CROSS SECTIONS

Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_XSEC02.dwg -- Printed: Jun 12, 2014 - 5:05pm

33RD AVENUE SOUTH CROSS SECTIONS

FROM STA. 5+50 TO STA. 9+25



BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

33RD AVENUE SOUTH CROSS
SECTIONS

FROM STA. 5+50 TO STA. 9+25

1700 W. 10TH ST.
BLOOMINGTON, MN 55431
PHONE (651) 882-8700

CITY OF
BLOOMINGTON
MINNESOTA

Kimley-Horn
and Associates, Inc.
TEL: NO. (651) 645-4497
FAX: NO. (651) 645-5116
2550 UNIVERSITY AVE., WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL

I HEREBY CERTIFY THAT THIS PLAN WAS
PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A LICENSED
LICENSED PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

THOMAS J. LINCOLN 21433 6/10/14
LIC. # DATE

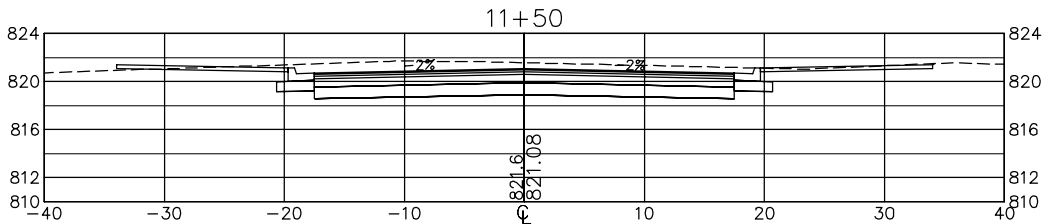
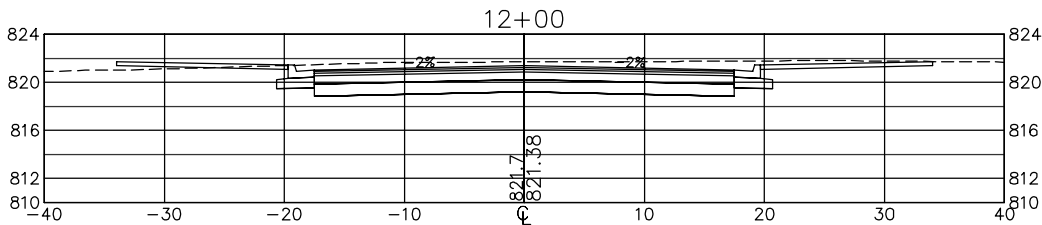
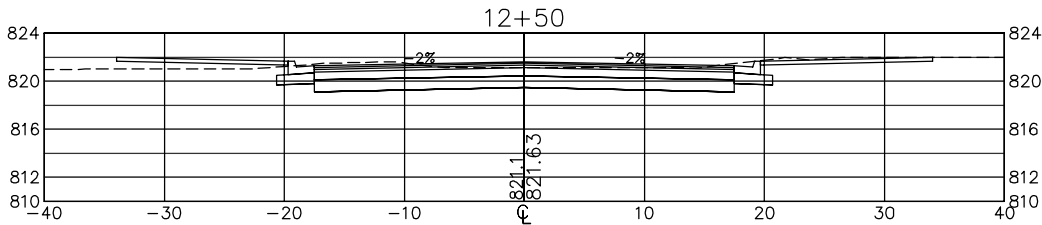
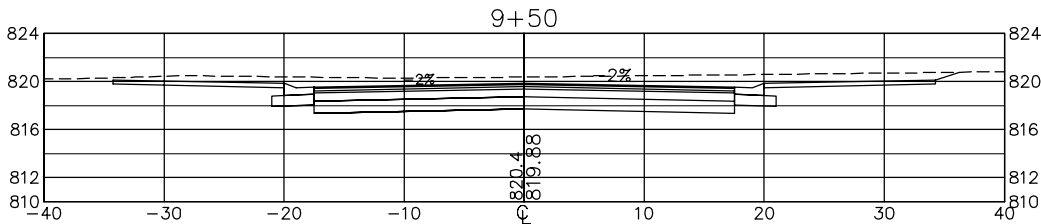
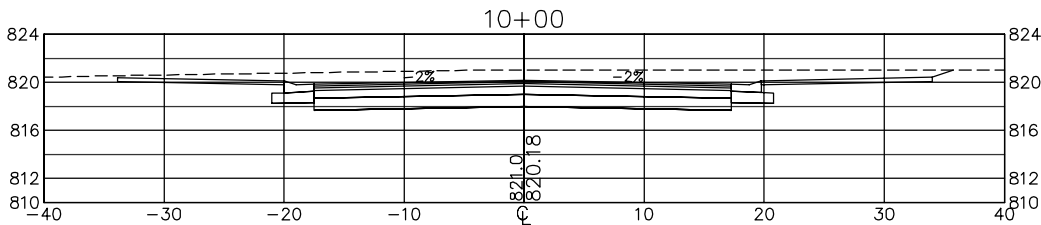
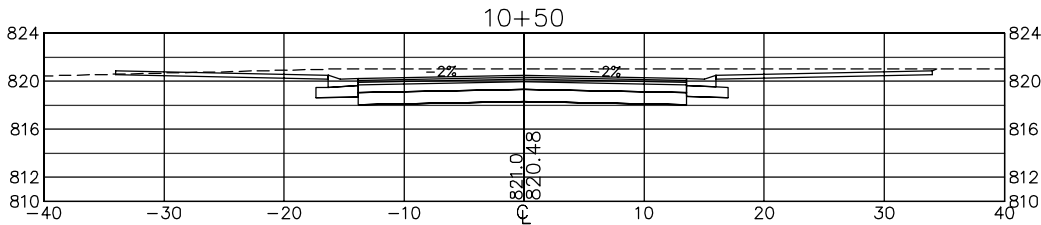
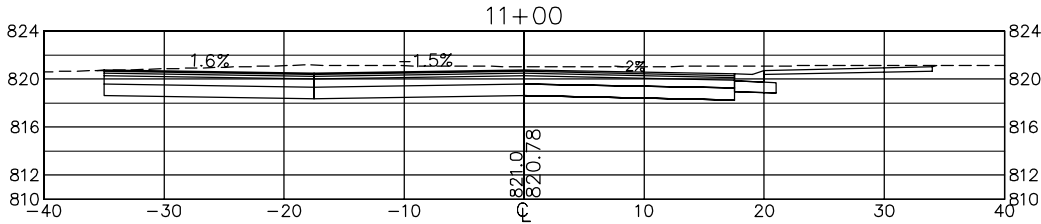
DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
51 OF 83

Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_XSEC03.dwg -- Printed: Jun 12, 2014 - 5:07pm

33RD AVENUE SOUTH CROSS SECTIONS

FROM STA. 9+50 TO STA. 12+50



BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS
CITY PROJECT 2013-304

33RD AVENUE SOUTH CROSS
SECTIONS

FROM STA. 9+50 TO STA. 12+50

1700 W 4TH ST
BLOOMINGTON MN 55431
PHONE (822) 882-8700

CITY OF
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MINNESOTA

Kimley-Horn
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TEL: NO. (651) 645-4497
FAX: NO. (651) 645-5116
2550 UNIVERSITY AVE. WEST, SUITE 230N
ST. PAUL, MINNESOTA 55114

REVISIONS

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06/10/2014	ISSUED FOR BID	TJL

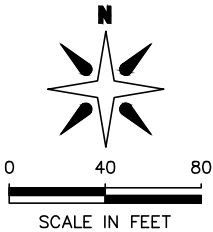
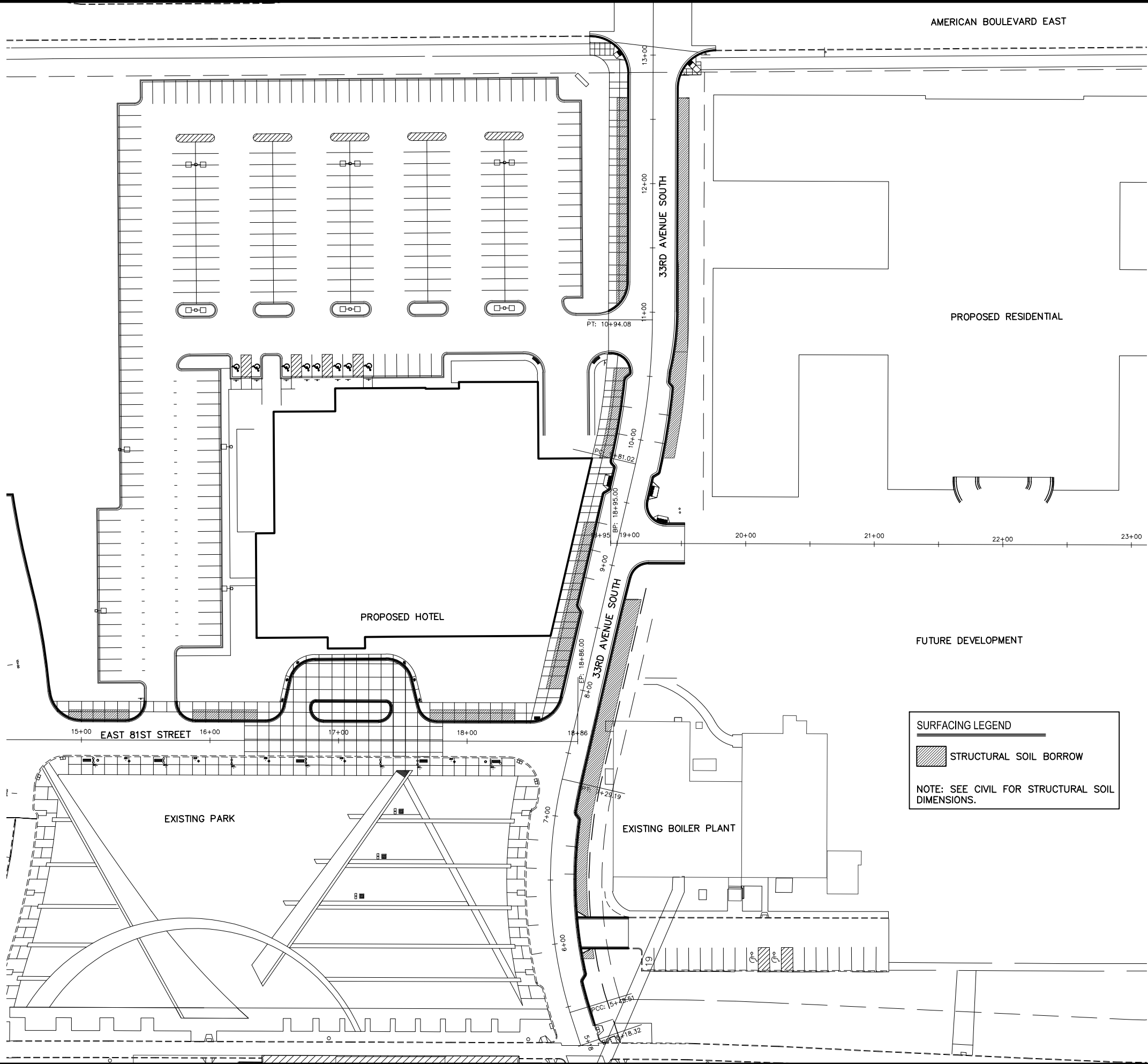
I HEREBY CERTIFY THAT THIS PLAN WAS
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LICENSED PROFESSIONAL ENGINEER UNDER
THE LAWS OF THE STATE OF MINNESOTA.

THOMAS J. LINCOLN 21433 6/10/14
DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
52 OF 83

Drawing name: M:\2600\2635\002\Work\Drawg\2A_100%\L1_2A.dwg -- Printed: Jun 09, 2014 -- 10:22am



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DRAWN: RLH
CHECKED: TK
APPROVED: TK
SHEET: L1

TADD KREUN
24862 06/06/2014
LIC. # DATE

REVISIONS		
DATE	DESCRIPTION	BY
04/25/2014	100% SUBMITTAL	RH
06/10/2014	ISSUED FOR BID	RH

CITY OF
BLOOMINGTON
MINNESOTA

1700 W 98TH ST.
BLOOMINGTON MN 55431

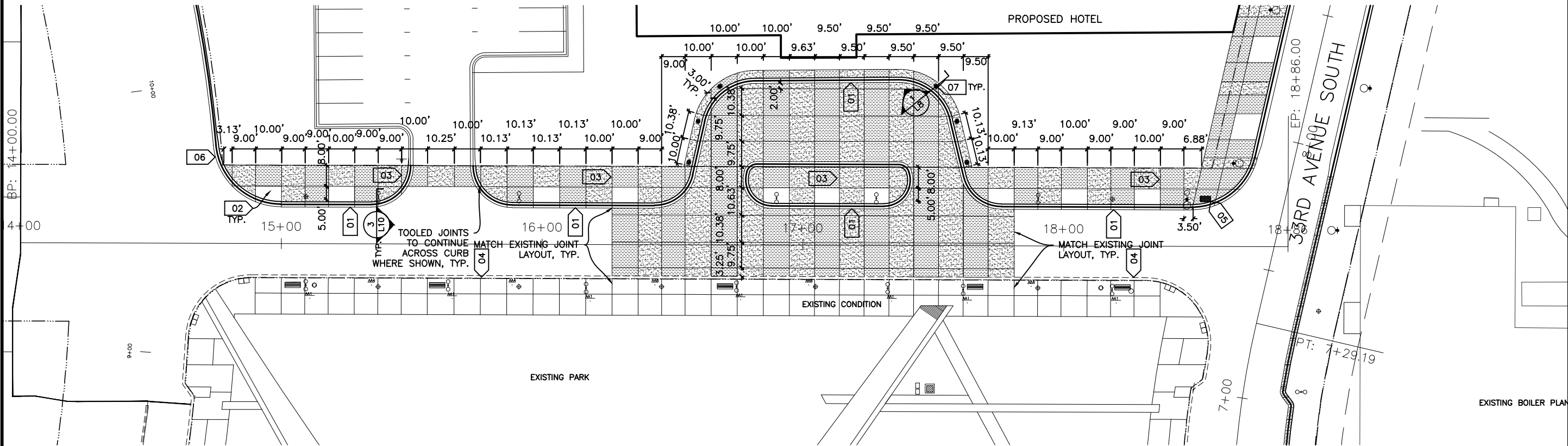
PHONE (952) 563-8700

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ENVIRONMENTAL DESIGN
115 WASHINGTON AVE N MINNEAPOLIS MN 55401 TEL 612.359.9144

BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

STRUCTURAL SOIL PLAN

EAST 81ST STREET





LEGEND

- -BOLLARDS
- -STREET LIGHT (SEE ELECTRICAL)
- ⊕ -STREET LIGHT (SEE ELECTRICAL)
- -STREET LIGHT (SEE ELECTRICAL)

KEYNOTES

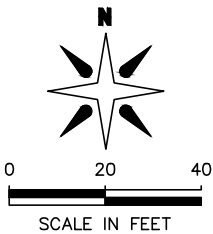
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|----|---|
| 01 | 8" CONCRETE VALLEY GUTTER SPECIAL 4. |
| 02 | PLANTING BED |
| 03 | CONCRETE SIDEWALK |
| 04 | EXISTING CURB |
| 05 | TRUNCATED DOMES - SEE CIVIL |
| 06 | CONCRETE CURB AND GUTTER DESIGN B612
SPECIAL 1 |
| 07 | BOLLARD-SEE 1/L8 |

SURFACING LEGEND

-  5" CONCRETE WALK SPECIAL 3
-  5" CONCRETE WALK SPECIAL 4

NOTES

1. SEE CIVIL DRAWINGS FOR ROAD LAYOUT.
2. SEE ELECTRICAL DRAWINGS FOR LIGHTING DETAILS.
3. PORTE-COCHERE MEDIAN TO HAVE 5" THICK CONCRETE. SEE CIVIL DRAWINGS.
4. USE DETAIL 2/L10 FOR ALL LIGHT BASE COVERS.
5. CONTINUE JOINTS THROUGH CURB FROM ADJACENT SIDEWALKS AS DIMENSIONED.
5. 8" CONCRETE VALLEY GUTTER COLOR TO BE SPECIAL 4.



REVISIONS

DATE	DESCRIPTION	BY
04/25/2014	100% SUBMITTAL	RH
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DRAWN: RLH
CHECKED: TK
APPROVED: TK

SHEET:
L2

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BLOOMINGTON MN 55431
PHONE (952) 563-8700

**CITY OF
BLOOMINGTON
MINNESOTA**

1700 W 98TH
BLOOMINGTON
PHONE (952) 895-3300

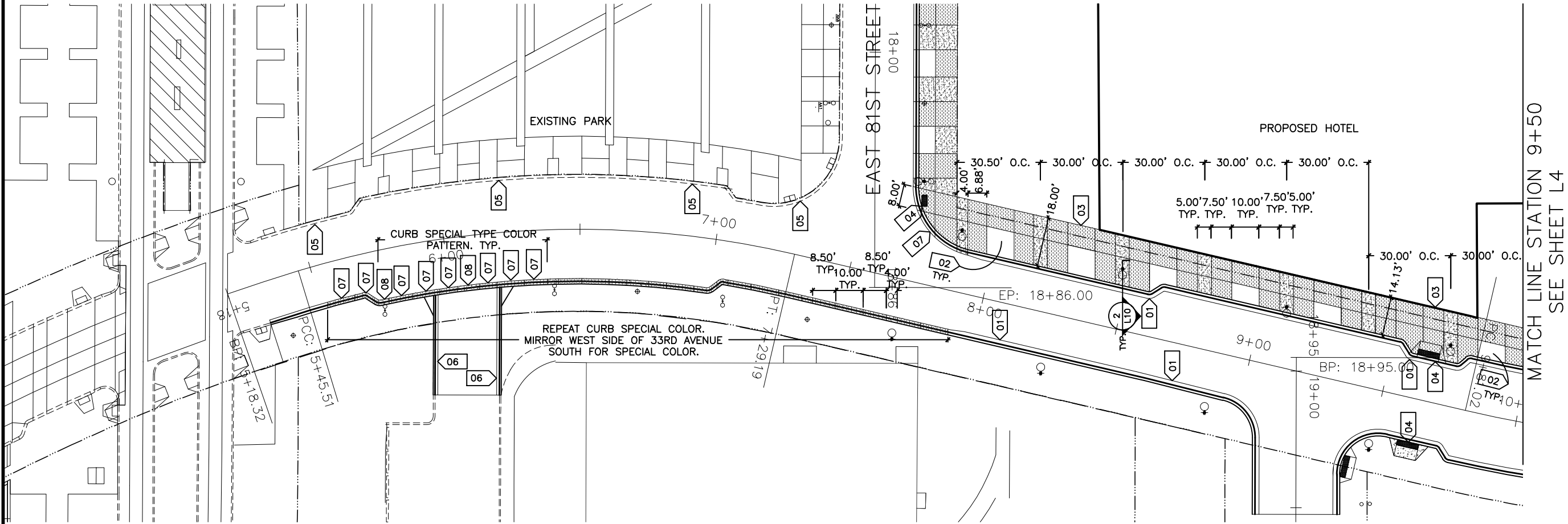
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MASTER PLANNING

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**BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304**

EAST 81ST STREET STREETSCAPE PLAN

33RD AVENUE SOUTH



MATCH LINE STATION 9+50
SEE SHEET L4

LEGEND

- STREET LIGHT (SEE ELECTRICAL)
- STREET LIGHT (SEE ELECTRICAL)
- STREET LIGHT (SEE ELECTRICAL)

KEYNOTES

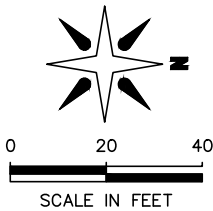
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- 02 PLANTING BED
- 03 CONCRETE SIDEWALK
- 04 TRUNCATED DOMES - SEE CIVIL
- 05 EXISTING CURB
- 06 CONCRETE CURB AND GUTTER DESIGN B612 SPECIAL 1 - SEE CIVIL
- 07 8" CONCRETE VALLEY GUTTER SPECIAL TYPE 4.
- 08 8" CONCRETE VALLEY GUTTER SPECIAL TYPE 3.

SURFACING LEGEND

- 5" CONCRETE WALK SPECIAL 3
- 5" CONCRETE WALK SPECIAL 4

NOTES

- SEE CIVIL DRAWINGS FOR ROAD LAYOUT.
- SEE ELECTRICAL DRAWINGS FOR LIGHTING DETAILS.
- USE DETAIL 2/L10 FOR ALL LIGHT BASE COVERS.



REVISIONS

DATE	DESCRIPTION	BY
04/25/2014	100% SUBMITTAL	RH
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DRAWN: RLH
CHECKED: TK
APPROVED: TK
SHEET: L3

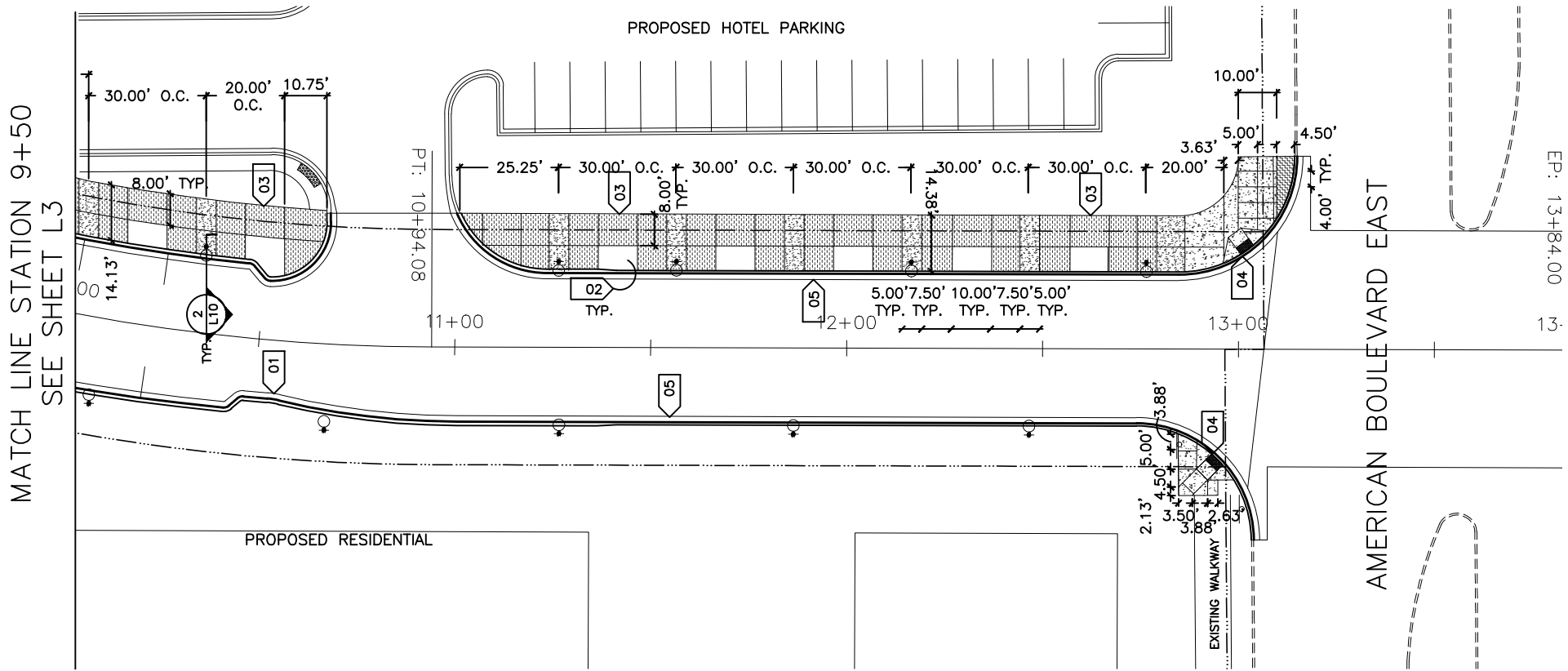
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LANDSCAPE ARCHITECTURE
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ENVIRONMENTAL DESIGN
115 WASHINGTON AVE N MINNEAPOLIS MN 55401 TEL 612.359.9144

CITY OF BLOOMINGTON MINNESOTA
1708 W 88TH ST
BLOOMINGTON MN 55431
PHONE (952) 563-8700

**BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304**
**33RD AVENUE SOUTH STREET
STREETSCAPE PLAN**

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33RD AVENUE SOUTH



LEGEND

●○ -EXISTING STREET LIGHT

KEYNOTES

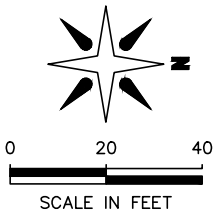
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- 02 PLANTING BED
- 03 CONCRETE SIDEWALK
- 04 TRUNCATED DOMES - SEE CIVIL
- 05 CONCRETE CURB AND GUTTER DESIGN B618 SPECIAL 1 - SEE CIVIL

SURFACING LEGEND

- 4" CONCRETE WALK SPECIAL 1
- 4" CONCRETE WALK SPECIAL 2
- 5" CONCRETE WALK SPECIAL 3
- 5" CONCRETE WALK SPECIAL 4

NOTES

- SEE CIVIL DRAWINGS FOR ROAD LAYOUT.
- SEE ELECTRICAL DRAWINGS FOR LIGHTING DETAILS.
- USE DETAIL 2/L10 FOR ALL LIGHT BASE COVERS.



REVISIONS		
DATE	DESCRIPTION	BY
04/25/2014	100% SUBMITTAL	RH
06/10/2014	ISSUED FOR BID	RH

I hereby certify that this plan, specification or report was prepared by our firm, and that I am a duly registered Landscape Architect under the laws of the state of Illinois.

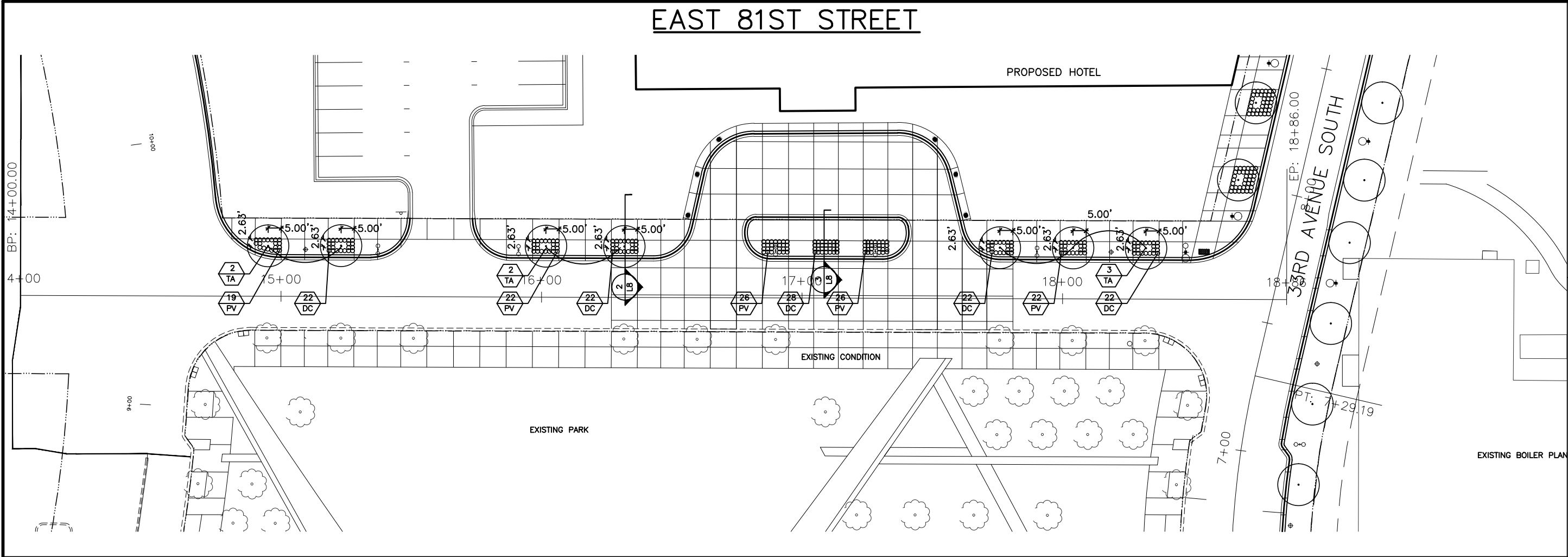
TADD KREUN 24862 06/06/2014 L.C. # DATE

DRAWN: RLH
CHECKED: TK
APPROVED: TK
SHEET: L4

CITY OF BLOOMINGTON MINNESOTA
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LANDSCAPE ARCHITECTURE
MASTER PLANNING
ENVIRONMENTAL DESIGN
1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (952) 563-8700
115 WASHINGTON AVE N MINNEAPOLIS MN 55401 TEL 612.358.9144

BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304
33RD AVENUE SOUTH STREET
STREETSCAPE PLAN

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PLANT MATERIAL SCHEDULE

TREES

KEY COMMON\BOTANICAL NAME	QTY	ROOT	SIZE	REMARKS
TA REDMOND LINDEN Tilia americana	7	B&B	3" CAL.	MATCHED SPECIMEN

PERENNIALS

KEY COMMON\BOTANICAL NAME	QTY	ROOT	SIZE	SPACING
PV SWITCHGRASS Panicum virgatum	112	CONT	#3	18" O.C.
DC TUFTED HAIR GRASS Deschampsia cespitosa	116	CONT	#3	18" O.C.

LEGEND:

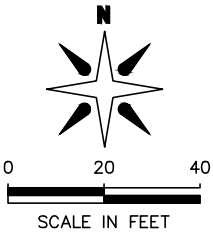
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- - PERENNIALS
- 10 AG - PLANT QUANTITY
- 10 AG - PLANT KEY
- 09 LI - DETAIL KEY
- ☼ - EXISTING TREE

NOTES:

- IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS SHOWN IN THE PLANT MATERIALS SCHEDULE AND THE PLANS, THE PLANS SHALL GOVERN.
- RESTORE ALL AREAS DISTURBED BY CONSTRUCTION UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL STAKE OUT LOCATION OF ALL PROPOSED TREES AND SHRUBS FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- ALL PLANTED BEDS SHALL BE IRRIGATED. SEE IRRIGATION DRAWINGS.
- ALL TREES TO BE TAGGED AT PLACE OF GROWTH BY LANDSCAPE ARCHITECT.
- PLANTING BEDS SHALL HAVE MULCH MATERIAL TYPE 6.

LEGEND:

- -BOLLARDS
- -STREET LIGHT (SEE ELECTRICAL)
- ⊕ -STREET LIGHT (SEE ELECTRICAL)
- ★○ -STREET LIGHT (SEE ELECTRICAL)



BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

EAST 81ST STREET LANDSCAPE
PLAN

CITY OF
BLOOMINGTON
MINNESOTA

1706 W 81ST ST
BLOOMINGTON MN 55431
PHONE (952) 563-8700

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LANDSCAPE ARCHITECTURE
MASTER PLANNING
ENVIRONMENTAL DESIGN

115 WASHINGTON AVE N MINNEAPOLIS MN 55401 TEL 612.359.9144

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06/10/2014	ISSUED FOR BID	RH

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TADD KREUN

24862

06/06/2014

LIC. #

DATE

DRAWN: RLH

CHECKED: TK

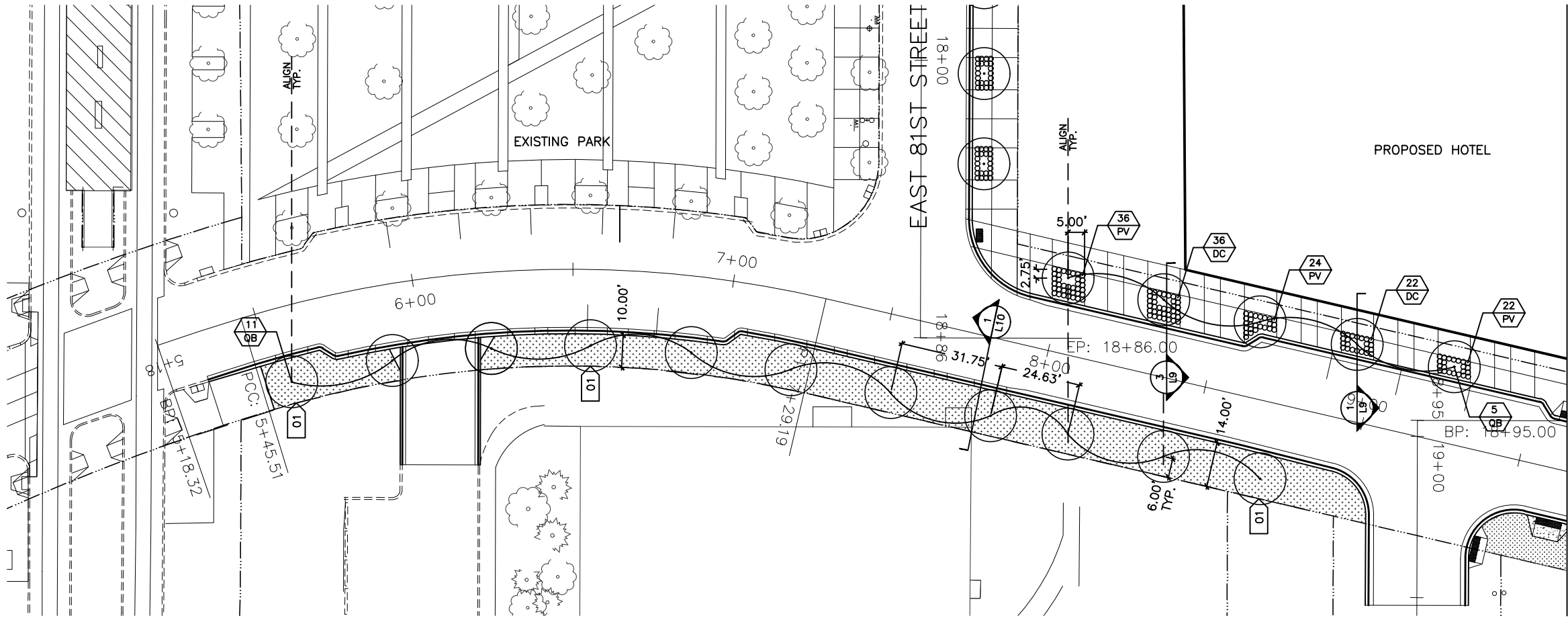
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SHEET:

L5

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33RD AVENUE SOUTH



MATCH LINE STATION 9+50
SEE SHEET L7

PLANT MATERIAL SCHEDULE

TREES

KEY COMMON\BOTANICAL NAME	QTY	ROOT SIZE	REMARKS
QB SWAMP WHITE OAK Quercus bicolor	16	B&B 3" CAL.	MATCHED SPECIMEN

PERENNIALS

KEY COMMON\BOTANICAL NAME	QTY	ROOT SIZE	SPACING
PV SWITCHGRASS Panicum virgatum	82	CONT #3	18" O.C.
DC TUFTED HAIR GRASS Deschampsia cespitosa	58	CONT #3	18" O.C.

LEGEND:

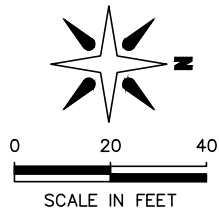
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- PERENNIALS
- PLANT QUANTITY
- PLANT KEY
- DETAIL KEY
- EXISTING TREE
- MULCH MATERIAL TYPE 9

KEYNOTES:

- STEEL LANDSCAPE EDGER

NOTES:

- IF A DISCREPANCY EXISTS BETWEEN THE NUMBER OF PLANTS SHOWN IN THE PLANT MATERIALS SCHEDULE AND THE PLANS, THE PLANS SHALL GOVERN.
- RESTORE ALL AREAS DISTURBED BY CONSTRUCTION UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL STAKE OUT LOCATION OF ALL PROPOSED TREES AND SHRUBS FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- ALL PLANTED BEDS AND SODDED AREAS SHALL BE IRRIGATED. SEE IRRIGATION DRAWINGS.
- ALL TREES TO BE TAGGED AT PLACE OF GROWTH BY LANDSCAPE ARCHITECT.
- PLANTING BEDS SHALL HAVE MULCH MATERIAL TYPE 6.



REVISIONS			
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04/25/2014	100% SUBMITTAL	RLH	
06/10/2014	ISSUED FOR BID	RH	

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DRAWN: RLH

CHECKED: TK

APPROVED: TK

SHEET:

L6

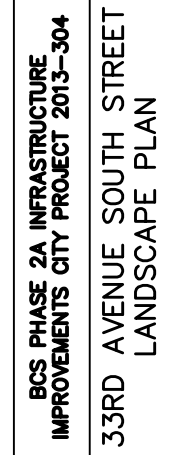
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MINNESOTA

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LANDSCAPE ARCHITECTURE
MASTER PLANNING
ENVIRONMENTAL DESIGN
115 WASHINGTON AVE N MINNEAPOLIS MN 55401 TEL 612.359.9144

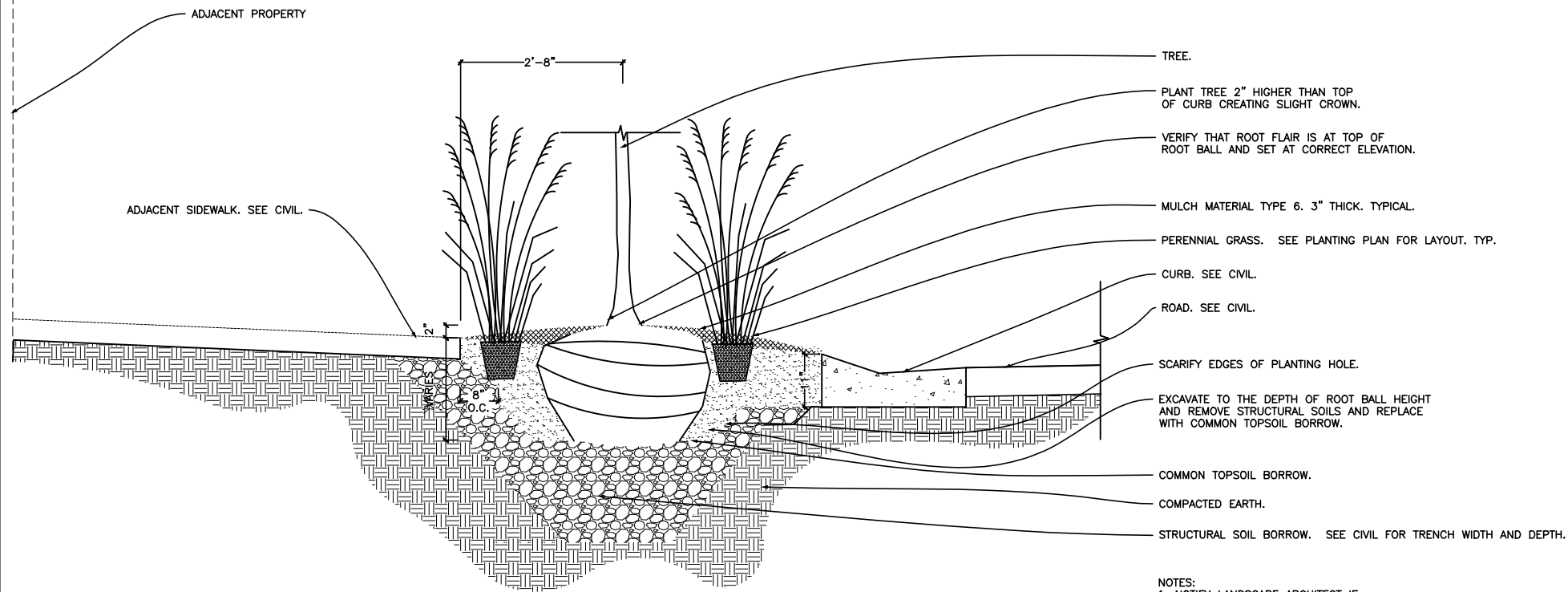
1700 W 98TH ST.
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BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

33RD AVENUE SOUTH STREET
LANDSCAPE PLAN

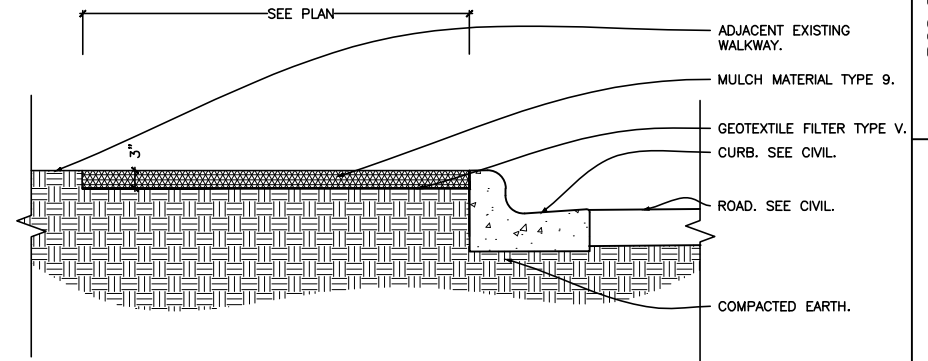


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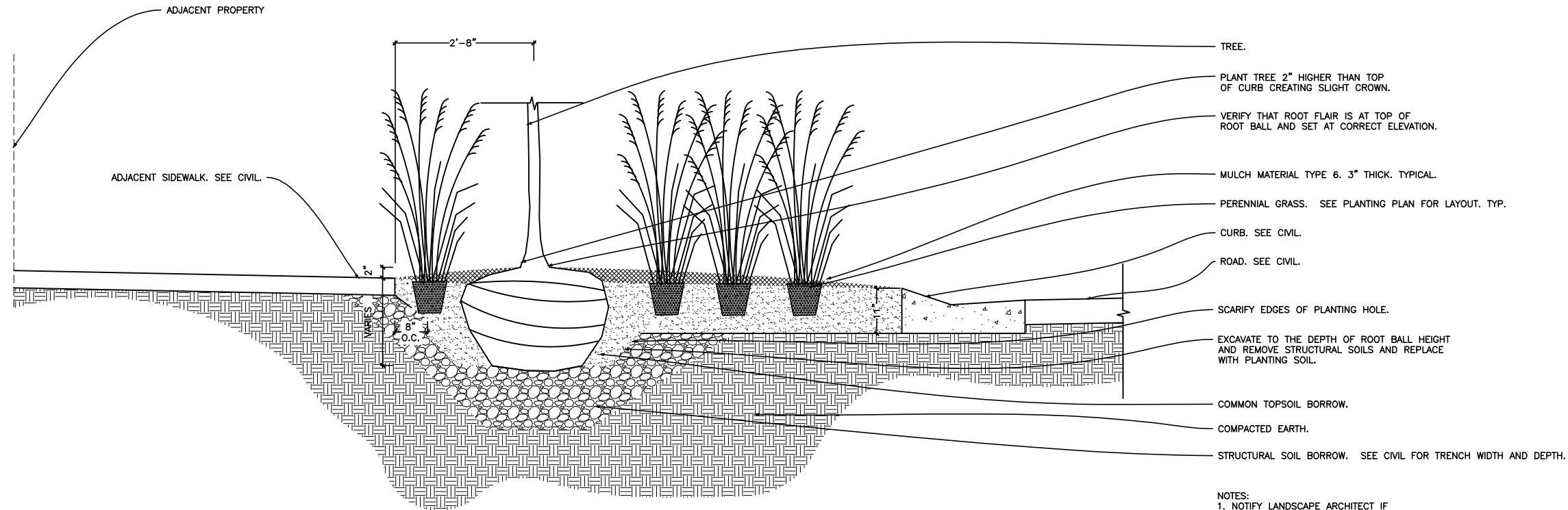


1 33RD AVENUE SOUTH STREET PLANTING DETAIL
L9 SCALE: 3/4"=1'-0"

NOTES:
1. NOTIFY LANDSCAPE ARCHITECT IF HEAVY CLAY OR SATURATED SOILS ARE ENCOUNTERED DURING EXCAVATION.



2 AMERICAN BLVD. ROCK MULCH
L9 SCALE: 1/2"=1'-0"



3 33RD AVENUE SOUTH STREET PLANTING DETAIL
L9 SCALE: 3/4"=1'-0"

NOTES:
1. NOTIFY LANDSCAPE ARCHITECT IF HEAVY CLAY OR SATURATED SOILS ARE ENCOUNTERED DURING EXCAVATION.

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06/10/2014	ISSUED FOR BID	RH	

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LIC. # DATE

DRAWN: RLH
CHECKED: TK
APPROVED: TK
SHEET: L9

city of
BLOOMINGTON
MINNESOTA

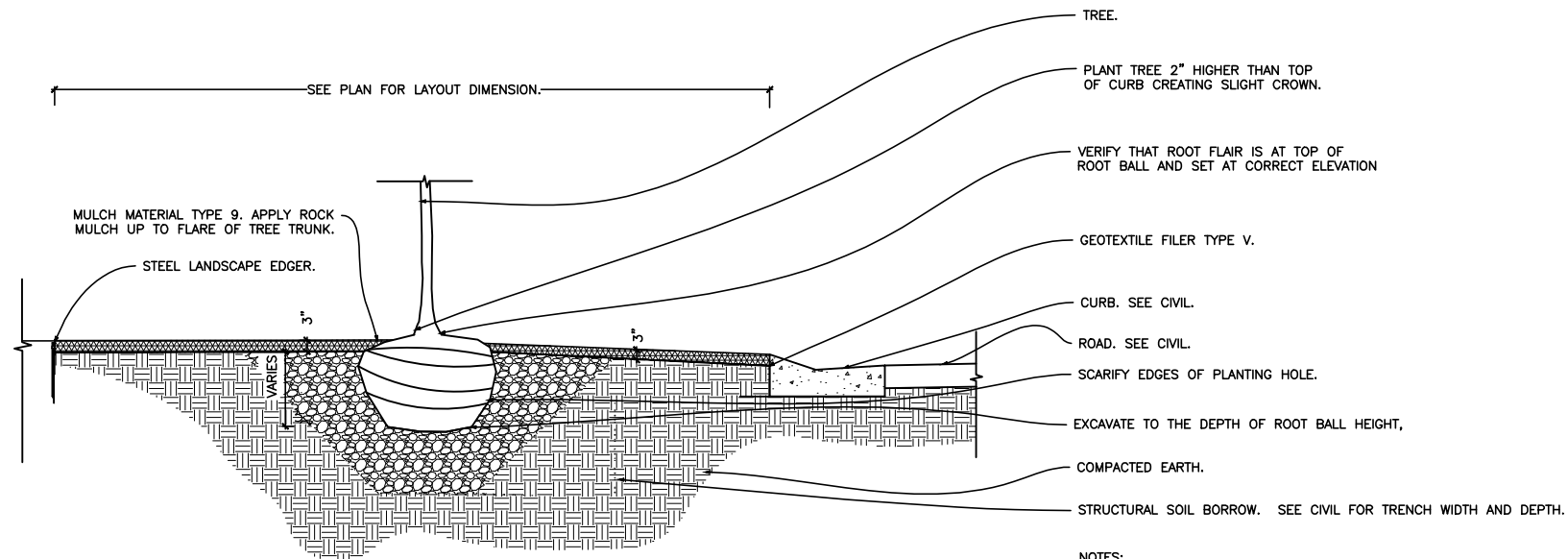
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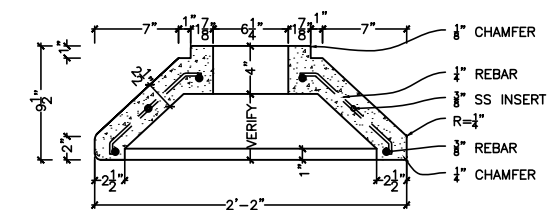
115 WASHINGTON AVE N MINNEAPOLIS MN 55401 TEL 612.359.9144

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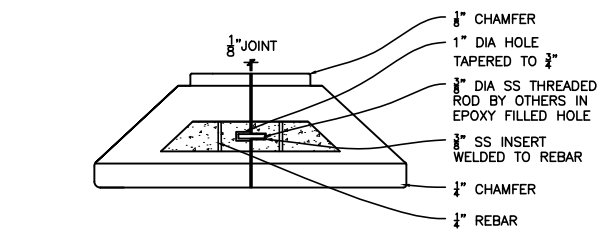
DETAILS



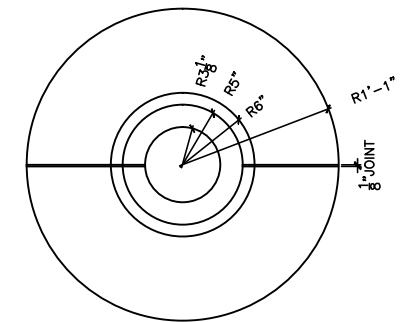
1 33RD AVENUE SOUTH STREETSCAPE ROCK MULCH/TREE PLANTING DETAIL
L10 SCALE: 1/2"=1'-0"



TOP VIEW (BOTH HALVES)



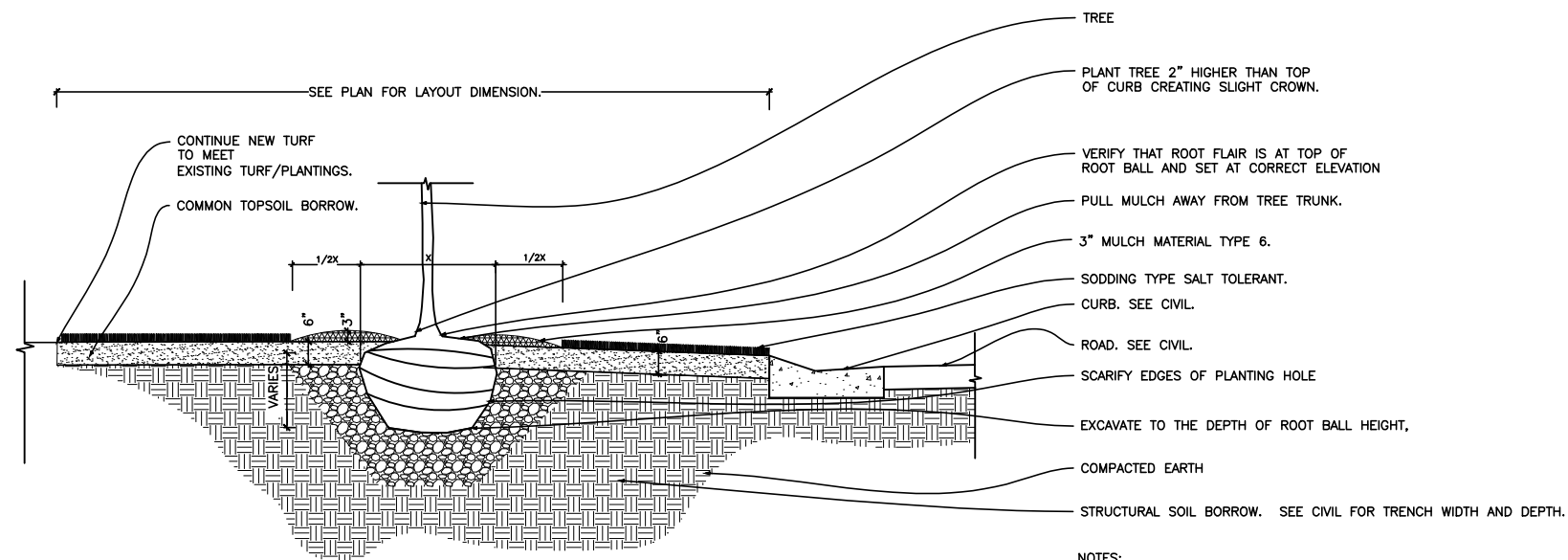
SECTION VIEW



CUT-AWAY CONNECTION DETAIL

NOTE:
1. PROVIDE SHOP DRAWING

2 LIGHT BASE COVER DETAIL
L10
SCALE: 3/2"=1'-0"



3 33RD AVENUE SOUTH STREET TREE/TURF DETAIL
L10 SCALE: 1/2"=1'-0"

REVISIONS		
DATE	DESCRIPTION	BY
04/25/2014	100% SUBMITTAL	RH
06/10/2014	ISSUED FOR BID	RH

hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly registered Landscape Architect under the laws of the state of Illinois.

TADD KREUN
24862 06/06/2014
LIC. # DATE

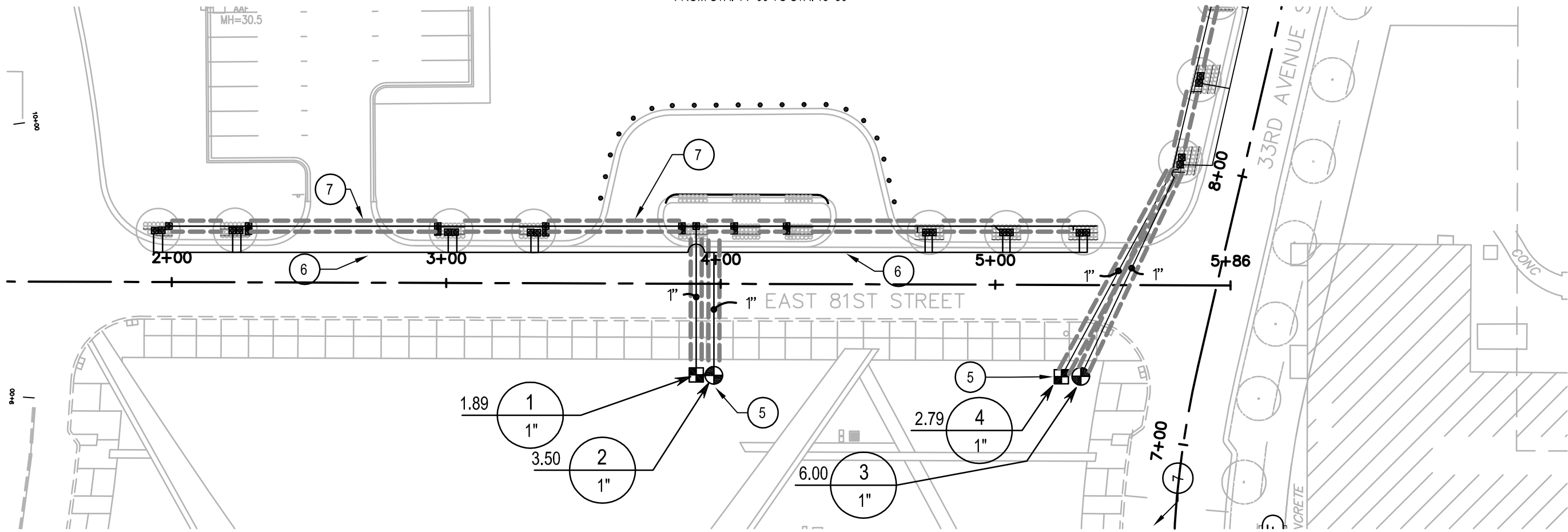
DRAWN: RLH
CHECKED: TK
APPROVED: TK
SHEET:

L10

Drawing name: C:\Users\Owner\Dropbox\Bloomington\Design Documents\BCS_IRRDSGN_2A (1).dwg -- Printed: Jun 13, 2014 -- 9:39am

EAST 81ST STREET

FROM STA. 14+00 TO STA. 18+86



IRRIGATION SCHEDULE

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Hunter MP Strip PROS-04-CV
Turf Rotator, 4" (10.16 cm) pop-up with factory
installed check valve, pressure regulated to 40
psi (2.76 bar), MP Rotator nozzle on PRS40
body. LST=Ivory left strip, SST=Brown side strip,
RST=Copper right strip.



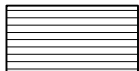
Hunter RZWS-36-25CV
36" long RZWS with installed 0.25 GPM bubbler,
Check Valve, 1/2" swing joint for connection to
1/2" pipe

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Rain Bird XEZ-100-PRB-COM
Medium Plus Flow Drip Control Kit for Commercial
Applications. 1" Ball Valve with 1" PESB Valve
and 1" Pressure Regulating 40psi Quick-Check
Basket Filter. 3gpm to 20gpm.



Area to Receive Dripline
Hunter PLD-04-18 (18)
In-Line Pressure Compensating Landscape
Dripline with Built-In Check Valve. 0.4GPH
emitters at 18.0" O.C. Dripline laterals spaced
at 18.0" apart, with emitters offset for triangular
pattern. UV Resistant.

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Hunter ICV-6
1", 1-1/2", 2", and 3" Plastic Electric Remote
Control Valves, Globe Configuration, with NPT
Threaded Inlet/Outlet, for Commercial/Municipal
Use.



Febco 825Y 2"
Reduced Pressure Backflow Preventer



Water Meter 3"

Irrigation Lateral Line: Polyethylene and PVC Class 160
Polyethylene SDR-7 up to 1-1/4", then PVC Class
160 SDR 26 for 1-1/2" and larger. Only lateral
transition pipe sizes 1 1/4" and above are
indicated on the plan, with all others being 1" in
size.

Irrigation Mainline: HDPE PE3408 DR II 160psi

Pipe Sleeve: PVC Class 200 SDR 21

Valve Callout
Valve Number
Valve Flow
Valve Size

REFERENCE NOTES SCHEDULE

SYMBOL DESCRIPTION

- IRRIGATION CONTRACTOR TO REMOVE EXISTING
CONNECTION EQUIPMENT (BACKFLOW, METER,
ENCLOSURE) FROM THIS APPROXIMATE LOCATION.
- LOCATION OF NEW CONNECTION POINT. IRRIGATION
CONTRACTOR TO SUPPLY NEW 3" METER, BACKFLOW
AND ENCLOSURE AT THIS LOCATION - FIELD VERIFY.
- IRRIGATION CONTRACTOR TO MAINTAIN TWO-WIRE
PATH FROM EXISTING TORO SENTINEL CONTROLLER
(BASELINE DECODER INTERFACE) ACROSS 33RD
AVENUE DURING CONSTRUCTION. COORDINATE
PLACEMENT/PROTECTION OF TWO-WIRE PATH WITH ALL
ASSOCIATED TRADES.
- IRRIGATION CONTRACTOR TO ESTABLISH NEW
TEMPORARY WATER CONNECTION (METER, BACKFLOW)
FROM HYDRANT AT THIS APPROXIMATE LOCATION -
FIELD VERIFY. CONNECT TEMPORARY WATER SOURCE
TO EXISTING 4" MAIN LINE AT THIS APPROXIMATE
LOCATION.
- INSTALL NEW VALVES FOR PHASE 2A ON EXISTING
MAIN LINE AT THIS APPROXIMATE LOCATION - FIELD
VERIFY. CONNECT NEW VALVES TO EXISTING
TWO-WIRE PATH AND CONNECT WITH COMPATIBLE
BASELINE DECODERS.
- PIPING SHOWN OUTSIDE OF LANDSCAPE/TURF AREA
FOR CLARITY ONLY. PLACE ALL IRRIGATION
EQUIPMENT IN LANDSCAPE/TURF AREAS.
- PLACE 2 - 4" PVC SCHEDULE 40 SLEEVE AND 1 - 1 1/2"
PVC SCHEDULE 40 SLEEVE BETWEEN ALL PLANTING
AREAS AND AT ALL ROAD/SIDEWALK CROSSINGS -
TYPICAL. COORDINATE PLACEMENT OF SLEEVING
WITH ALL ASSOCIATED TRADES.



0 20 40
SCALE IN FEET

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT
2013-304

1700 W 48TH ST
BLOOMINGTON MN 55431
PHONE (952) 563-8700

CITY OF
BLOOMINGTON
MINNESOTA

EAST 81ST STREET IRRIGATION
PLAN

FROM STA. 14+00 TO STA. 18+86

REVISIONS

REVISIONS		
DATE	DESCRIPTION	BY
04/25/2014	100% SUBMITTAL	TJL
06/10/2014	ISSUED FOR BID	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY
LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MINNESOTA.

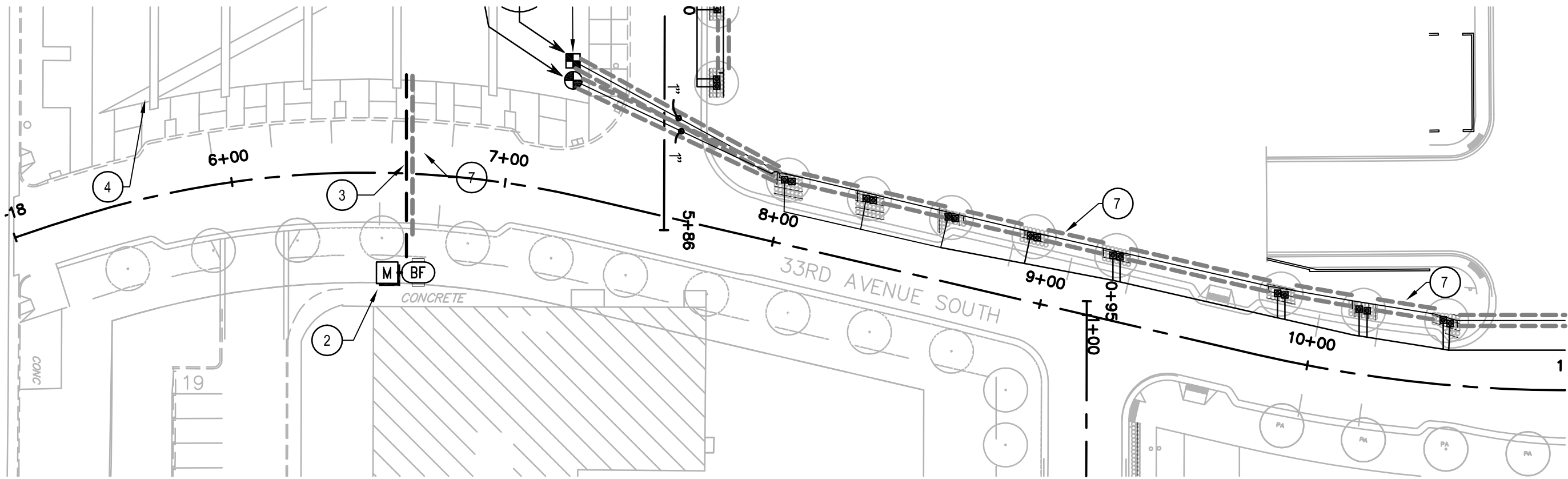
DRAWN: CMR
CHECKED: JWR
APPROVED: JWR

SHEET:
11 of 15

Drawing name: C:\Users\Owner\Dropbox\Bloomington\Design Documents\BCS_IRRDSON_2A (1).dwg -- Printed: Jun 13, 2014 -- 9:41am

33RD AVENUE SOUTH

FROM STA. 5+18 TO STA. 9+50



IRRIGATION SCHEDULE

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Hunter MP Strip PROS-04-CV
Turf Rotator, 4" (10.16 cm) pop-up with factory
installed check valve, pressure regulated to 40
psi (2.76 bar), MP Rotator nozzle on PRS40
body. LST=Ivory left strip, SST=Brown side strip,
RST=Copper right strip.



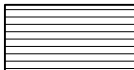
Hunter RZWS-36-25CV
36" long RZWS with installed 0.25 GPM bubbler,
Check Valve, 1/2" swing joint for connection to
1/2" pipe

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Rain Bird XGZ-100-FRB-COM
Medium Plus Flow Drip Control Kit for Commercial
Applications. 1" Ball Valve with 1" PESB Valve
and 1" Pressure Regulating 40psi Quick-Check
Basket Filter. 3gpm to 20gpm.



Area to Receive Dripline
Hunter PLD-04-18 (18)
In-Line Pressure Compensating Landscape
Dripline with Built-In Check Valve. 0.4GPH
emitters at 18.0" O.C. Dripline laterals spaced
at 18.0" apart, with emitters offset for triangular
pattern. UV Resistant.

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Hunter ICV-6
1", 1-1/2", 2", and 3" Plastic Electric Remote
Control Valves, Globe Configuration, with NPT
Threaded Inlet/Outlet, for Commercial/Municipal
Use.



Febco 825Y 2"
Reduced Pressure Backflow Preventer



Water Meter 3"



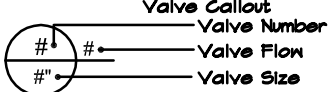
Irrigation Lateral Line: Polyethylene and PVC Class 160
Polyethylene SDR-7 up to 1-1/4", then PVC Class
160 SDR 26 for 1-1/2" and larger. Only lateral
transition pipe sizes 1 1/4" and above are
indicated on the plan, with all others being 1" in
size.



Irrigation Mainline: HDPE PE3408 DR II 160psi



Pipe Sleeve: PVC Class 200 SDR 21



REFERENCE NOTES SCHEDULE

SYMBOL

DESCRIPTION

1

IRRIGATION CONTRACTOR TO REMOVE EXISTING
CONNECTION EQUIPMENT (BACKFLOW, METER,
ENCLOSURE) FROM THIS APPROXIMATE LOCATION.

2

LOCATION OF NEW CONNECTION POINT. IRRIGATION
CONTRACTOR TO SUPPLY NEW 3" METER, BACKFLOW
AND ENCLOSURE AT THIS LOCATION - FIELD VERIFY.

3

IRRIGATION CONTRACTOR TO MAINTAIN TWO-WIRE
PATH FROM EXISTING TORO SENTINEL CONTROLLER
(BASELINE DECODER INTERFACE) ACROSS 33RD
AVENUE DURING CONSTRUCTION. COORDINATE
PLACEMENT/PROTECTION OF TWO-WIRE PATH WITH ALL
ASSOCIATED TRADES.

4

IRRIGATION CONTRACTOR TO ESTABLISH NEW
TEMPORARY WATER CONNECTION (METER, BACKFLOW)
FROM HYDRANT AT THIS APPROXIMATE LOCATION -
FIELD VERIFY. CONNECT TEMPORARY WATER SOURCE
TO EXISTING 4" MAIN LINE AT THIS APPROXIMATE
LOCATION.

5

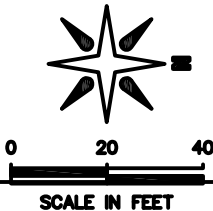
INSTALL NEW VALVES FOR PHASE 2A ON EXISTING
MAIN LINE AT THIS APPROXIMATE LOCATION - FIELD
VERIFY. CONNECT NEW VALVES TO EXISTING
TWO-WIRE PATH AND CONNECT WITH COMPATIBLE
BASELINE DECODERS.

6

PIPING SHOWN OUTSIDE OF LANDSCAPE/TURF AREA
FOR CLARITY ONLY. PLACE ALL IRRIGATION
EQUIPMENT IN LANDSCAPE/TURF AREAS.

7

PLACE 2 - 4" PVC SCHEDULE 40 SLEEVE AND 1 - 1 1/2"
PVC SCHEDULE 40 SLEEVE BETWEEN ALL PLANTING
AREAS AND AT ALL ROAD/SIDEWALK CROSSINGS -
TYPICAL. COORDINATE PLACEMENT OF SLEEVING
WITH ALL ASSOCIATED TRADES.



BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT
2013-304

1700 W 48TH ST
BLOOMINGTON MN 55431
PHONE (952) 563-8700

CITY OF
BLOOMINGTON
MINNESOTA

33RD AVENUE SOUTH IRRIGATION
PLAN
FROM STA. 5+18 TO STA. 9+50

REVISIONS

REVISIONS		
DATE	DESCRIPTION	BY
	</	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY
LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF
THE STATE OF MINNESOTA.

DRAWN: CMR
CHECKED: JWR
APPROVED: JWR

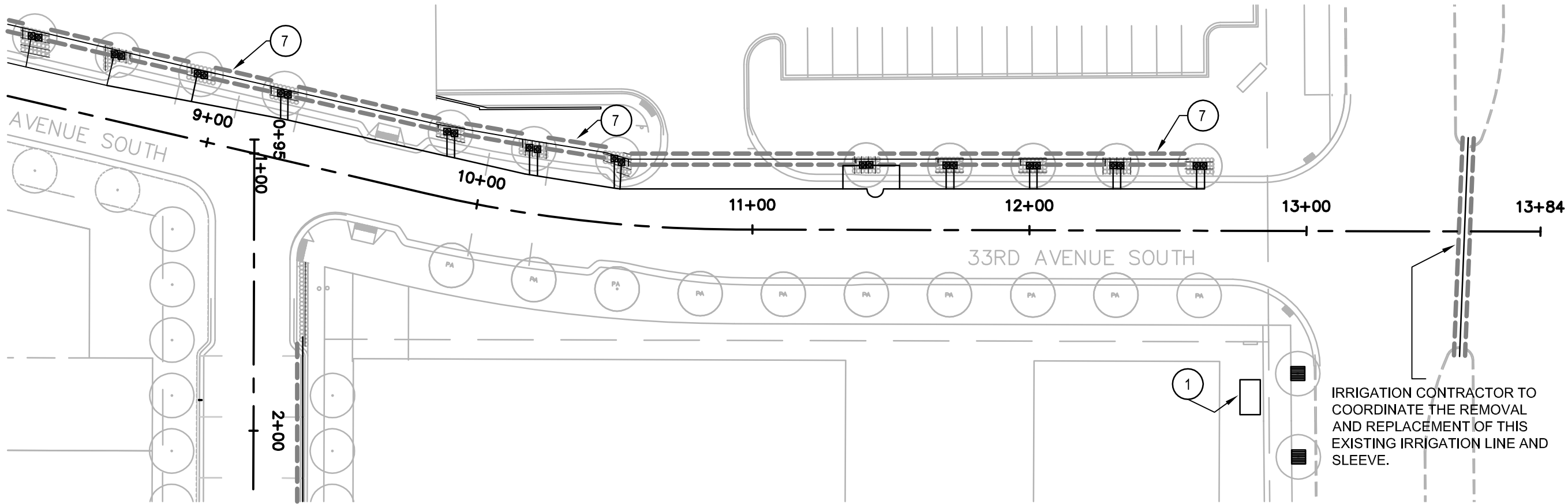
SHEET:

12 of 15

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33RD AVENUE SOUTH

FROM STA. 9+50 TO STA. 13+84



IRRIGATION SCHEDULE

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Hunter MP Strip PROS-04-CV
Turf Rotator, 4" (10.16 cm) pop-up with factory
installed check valve, pressure regulated to 40
psi (2.76 bar), MP Rotator nozzle on PRS40
body. LST=Ivory left strip, SST=Brown side strip,
RST=Copper right strip.

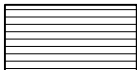
Hunter RZWS-36-25CV
36" long RZWS with installed 0.25 GPM bubbler,
Check Valve, 1/2" swing joint for connection to
1/2" pipe

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Rain Bird XGZ-100-PRB-COM
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Applications. 1" Ball Valve with 1" PESB Valve
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Area to Receive Dripline
Hunter PLD-04-18 (18)
In-Line Pressure Compensating Landscape
Dripline with Built-In Check Valve. 0.4GPH
emitters at 18.0" O.C. Dripline laterals spaced
at 18.0" apart, with emitters offset for triangular
pattern. UV Resistant.

SYMBOL



MANUFACTURER/MODEL/DESCRIPTION

Hunter ICV-G
1", 1-1/2", 2", and 3" Plastic Electric Remote
Control Valves, Globe Configuration, with NPT
Threaded Inlet/Outlet, for Commercial/Municipal
Use.



Febco 825Y 2"
Reduced Pressure Backflow Preventer

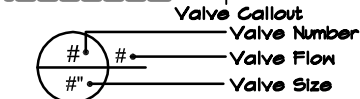


Water Meter 3"

Irrigation Lateral Line: Polyethylene and PVC Class 160
Polyethylene SDR-7 up to 1-1/4", then PVC Class
160 SDR 26 for 1-1/2" and larger. Only lateral
transition pipe sizes 1 1/4" and above are
indicated on the plan, with all others being 1" in
size.

Irrigation Mainline: HDPE PE3408 DR II 160psi

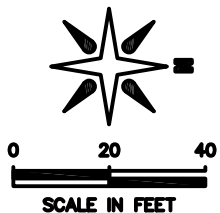
Pipe Sleeve: PVC Class 200 SDR 21



REFERENCE NOTES SCHEDULE

SYMBOL DESCRIPTION

- IRRIGATION CONTRACTOR TO REMOVE EXISTING
CONNECTION EQUIPMENT (BACKFLOW, METER,
ENCLOSURE) FROM THIS APPROXIMATE LOCATION.
- LOCATION OF NEW CONNECTION POINT. IRRIGATION
CONTRACTOR TO SUPPLY NEW 3" METER, BACKFLOW
AND ENCLOSURE AT THIS LOCATION - FIELD VERIFY.
- IRRIGATION CONTRACTOR TO MAINTAIN TWO-WIRE
PATH FROM EXISTING TORO SENTINEL CONTROLLER
(BASELINE DECODER INTERFACE) ACCROSS 33RD
AVENUE DURING CONSTRUCTION. COORDINATE
PLACEMENT/PROTECTION OF TWO-WIRE PATH WITH ALL
ASSOCIATED TRADES.
- IRRIGATION CONTRACTOR TO ESTABLISH NEW
TEMPORARY WATER CONNECTION (METER, BACKFLOW)
FROM HYDRANT AT THIS APPROXIMATE LOCATION -
FIELD VERIFY. CONNECT TEMPORARY WATER SOURCE
TO EXISTING 4" MAIN LINE AT THIS APPROXIMATE
LOCATION.
- INSTALL NEW VALVES FOR PHASE 2A ON EXISTING
MAIN LINE AT THIS APPROXIMATE LOCATION - FIELD
VERIFY. CONNECT NEW VALVES TO EXISTING
TWO-WIRE PATH AND CONNECT WITH COMPATIBLE
BASELINE DECODERS.
- PIPING SHOWN OUTSIDE OF LANDSCAPE/TURF AREA
FOR CLARITY ONLY. PLACE ALL IRRIGATION
EQUIPMENT IN LANDSCAPE/TURF AREAS.
- PLACE 2 - 4" PVC SCHEDULE 40 SLEEVE AND 1 - 1 1/2"
PVC SCHEDULE 40 SLEEVE BETWEEN ALL PLANTING
AREAS AND AT ALL ROAD/SIDEWALK CROSSINGS -
TYPICAL. COORDINATE PLACEMENT OF SLEEVING
WITH ALL ASSOCIATED TRADES.



BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT
2013-304

1700 W 48TH ST
BLOOMINGTON MN 55431
PHONE (952) 563-8700



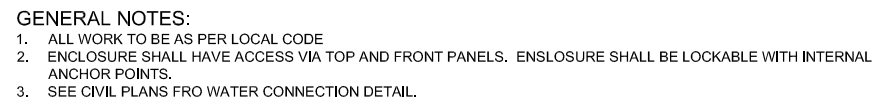
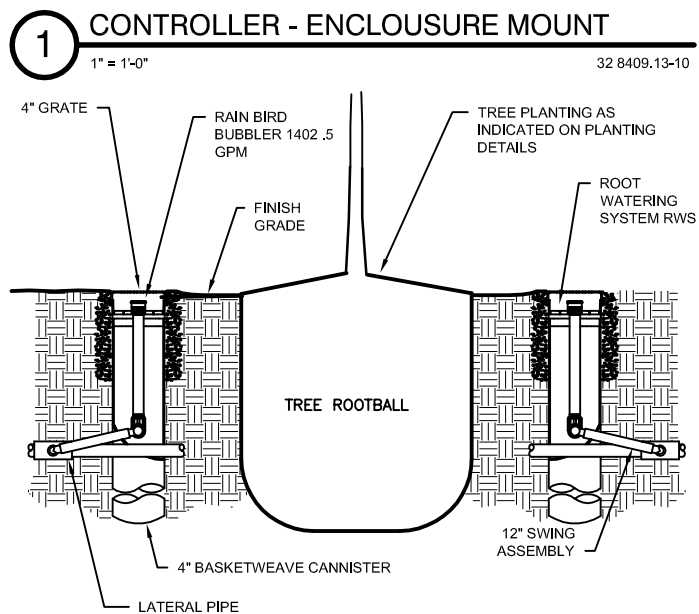
33RD AVENUE SOUTH IRRIGATION
PLAN
FROM STA. 9+50 TO STA. 13+84

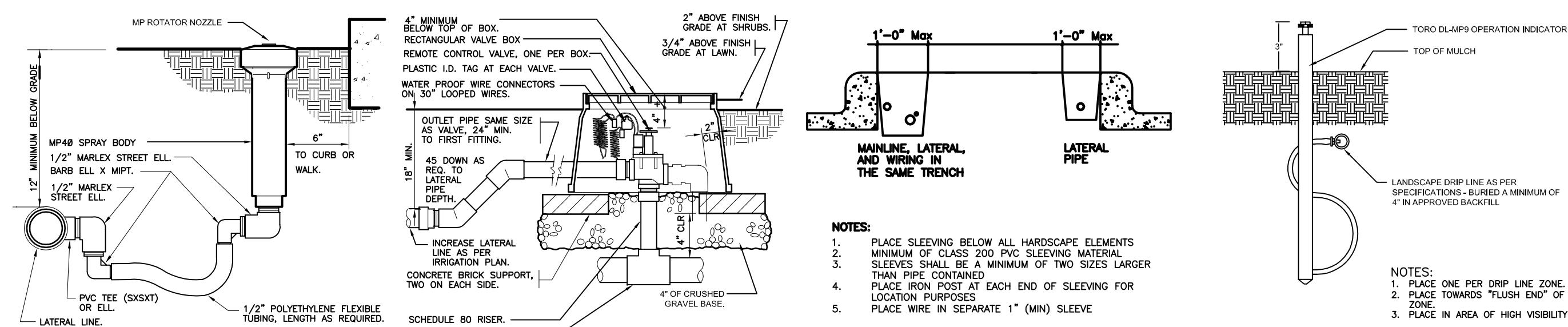
REVISIONS			BY
DATE	DESCRIPTION	TUL	
04/25/2014	100% SUBMITTAL		
06/10/2014	ISSUED FOR BID		

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY
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THE STATE OF MINNESOTA.

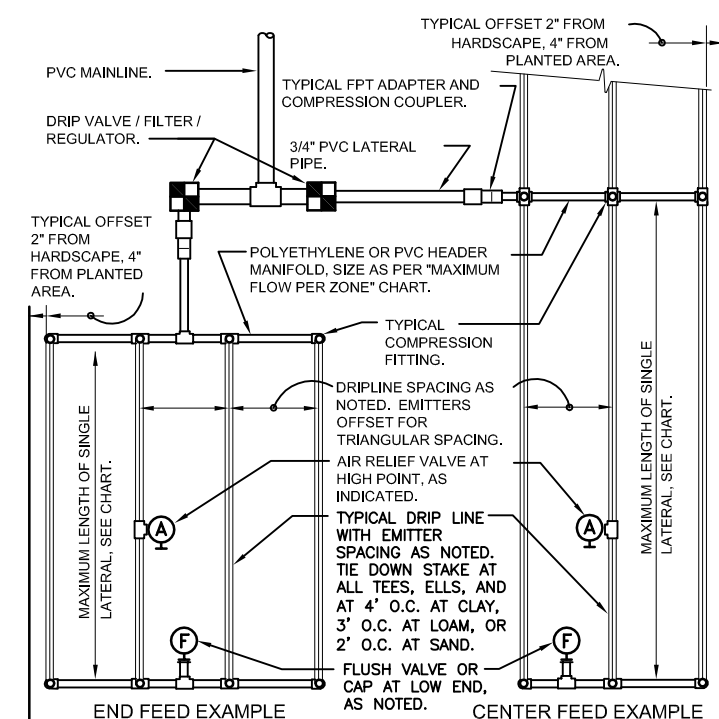
DRAWN: CMR
CHECKED: JWR
APPROVED: JWR

SHEET:
13 of 15





1 TURF ROTARY - FLEX PIPE 3" = 1'-0" 32 8403.13-08
2 REMOTE CONTROL VALVE - GRAVEL BASE 1 1/2" = 1'-0" 32 8406.13-10
3 PIPE PLACEMENT @ BLVD'S 1/4" = 1'-0" 32 8409.76-11
4 TORO OPERATION INDICATOR 3" = 1'-0" 32 8413.26-01



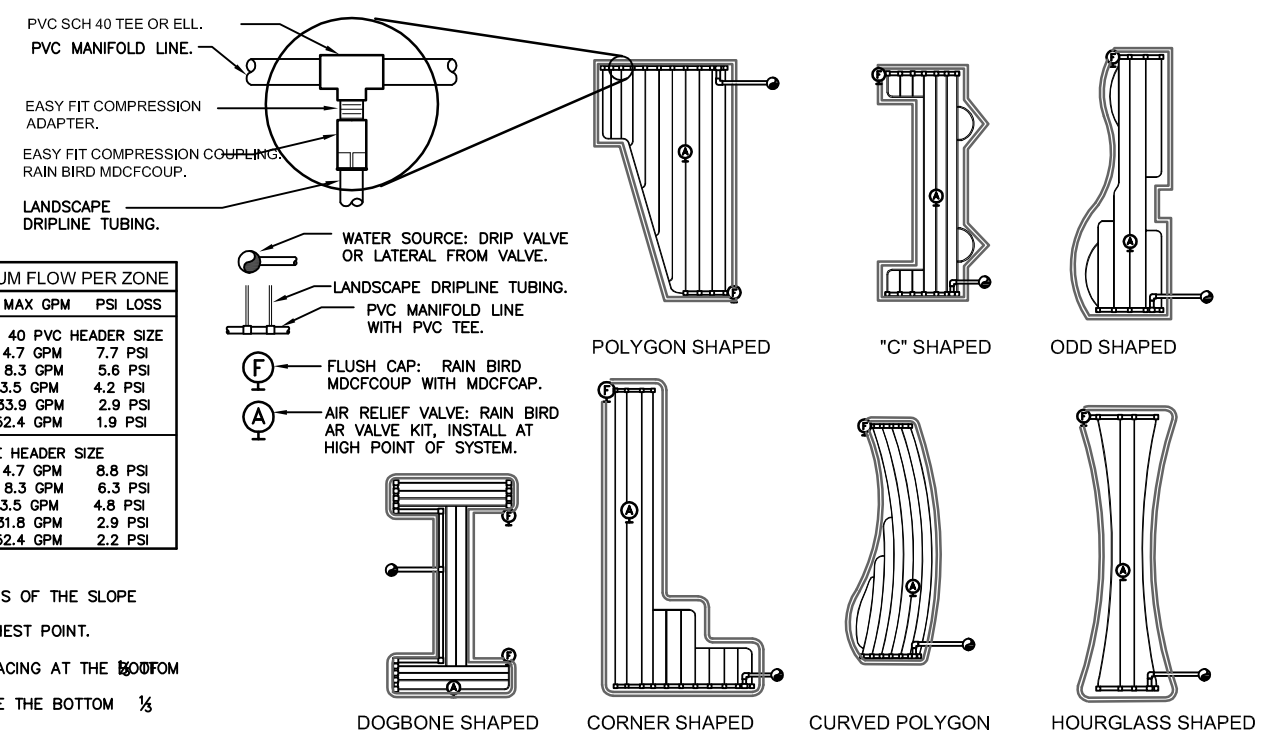
5 TYPICAL RAIN BIRD DRIPLINE REQUIREMENTS N.T.S.

MAXIMUM LATERAL LENGTH (FEET)						
PSI	EMITTER FLOW RATE GPH					
	12" SPACING		18" SPACING		24" SPACING	
10	125	96	175	135	218	171
20	249	191	350	271	442	340
30	307	236	434	333	550	422
40	350	268	495	380	627	471
50	385	296	545	420	690	521
60	415	320	585	450	740	561

GRID PRECIPITATION RATES (IN/HR)				
EMITTER SPACING	LATERAL SPACING	EMITTER FLOW RATE		
		0.6	0.9	
12	12	0.96	1.44	
18	18	0.69	1.03	
24	24	0.52	0.77	

LATERAL FLOW PER 100 FT (GPM)				
EMITTER FLOW	12" SPACING		18" SPACING	
	1.0 GPM	1.5 GPM	1.0 GPM	1.5 GPM
0.6 GPH	1.0 GPM	1.5 GPM	1.0 GPM	1.5 GPM
0.9 GPH	1.5 GPM	2.2 GPM	1.5 GPM	2.2 GPM

- SLOPED CONDITION NOTE:
1. DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHENEVER POSSIBLE.
 2. FURNISH & INSTALL ALL AIR RELIEF VALVE AT HIGHEST POINT.
 3. NORMAL SPACING WITHIN THE TOP 1/3 OF SLOPE.
 4. FURNISH & INSTALL DRIPLINE AT 25% GREATER SPACING AT THE BOTTOM OF THE SLOPE.
 5. WHEN ELEVATION CHANGE IS 10 FT OR MORE, ZONE THE BOTTOM 1/3 ON A SEPARATE VALVE.



BCS PHASE 2 INFRASTRUCTURE IMPROVEMENTS CITY PROJECTS
2013-304 & 2013-305

1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (952) 563-8700

192.407.2023
1700 SENTER LINE
BLOOMINGTON MN 55431
PHONE (952) 563-8700

IRREIGATION DETAILS

REVISIONS

DATE	DESCRIPTION	BY
03/07/2014	100% SUBMITTAL	JWR
06/10/2014	ISSUED FOR BID	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DRAWN: CMR
CHECKED: JWR
APPROVED: JWR

SHEET:
15 of 15

LIC. # DATE

ELECTRICAL GRAPHIC SYMBOLS					
SYMBOL/ DESCRIPTION	SYMBOL/ DESCRIPTION	SYMBOL	DESCRIPTION	MTG HT (IN)	SYMBOL
LIGHT FIXTURES					
DOWNLIGHT WALL PACK WALL WASHER FLUORESCENT (SIZE VARIES) STRIP (LENGTH VARIES) POLE MOUNTED ONE HEAD POLE MOUNTED TWO HEADS POLE MOUNTED NO ARM	NORMAL POWER, SURFACE MOUNTED				
	NORMAL POWER, RECESSED MOUNTED				
	EMERGENCY POWER, SURFACE MOUNTED				
	EMERGENCY POWER, RECESSED MOUNTED				
CIRCUITING/FEEDERS					
	LIGHT FIXTURE FIXTURE TYPE (SEE SCHEDULE) CIRCUIT NUMBER SWITCHING				
	GROUND WIRE NEUTRAL WIRE HOT WIRE WIRE SIZE (AWG) PANEL NAME CIRCUIT NUMBER(S)				
	PANEL IDENTIFIER CIRCUIT NUMBER				
	IG = ISOLATED GROUND RECEPTACLE				
MISCELLANEOUS					
	GANGED DEVICES UNDER ONE COVERPLATE				
	RECESSED WALL MOUNTED DEVICES				
	RECESSED CEILING MOUNTED DEVICES				
	1" C, 3#4 1" CONDUIT WITH 3#4 AWG WIRES				
	KEY NOTE (REFER TO LIST OF KEY NOTES ON PLAN)				
	NOTES DRAWING REVISION NUMBER				
	BOUNDARY DESIGNATES PHASE AND CONDUIT SYSTEM				
	NEW TREE - REFER TO LANDSCAPE PLAN FOR TYPE				
	EXISTING TREE				
POWER DISTRIBUTION AND CONTROL					
	MOTOR STARTER SWITCH WITH THERMAL OVERLOAD AND PILOT LIGHT				
	DISCONNECT SWITCH NON-FUSED				
	DISCONNECT SWITCH FUSED				
	MAGNETIC MOTOR STARTER				
	COMBINATION MOTOR STARTER/FUSED DISCONNECT				
	EQUIPMENT TAG (REFER TO EQUIPMENT SCHEDULE[S])				
	TRANSFORMER				
	480/277 VOLT PANELBOARD				
	208/120 VOLT PANELBOARD				
	ANNUNCIATOR				
	MISC. ENCLOSURE				
	TERMINAL CABINET				
	UNDERFLOOR DUCT COMMUNICATION AND POWER				
	ELECTRIC HEATER				
	PLUGSTRIP (SEE SPECS FOR TYPE)				
	CONCEALED CONDUIT ROUTED ABOVE FLOOR OR GRADE				
	CONCEALED CONDUIT ROUTED BELOW FLOOR OR UNDERGROUND UNLESS NOTED OTHERWISE				
	EXPOSED CONDUIT				
	CONDUIT UP				
	CONDUIT DOWN				
	CONDUIT STUBBED AND BUSHED				
	IN PLACE CONDUIT				
	FURNISH AND INSTALLED CONDUIT				
WIRING DEVICES/CONTROLS					
	SINGLE POLE SWITCH			46	
	TWO POLE SWITCH			46	
	THREE WAY SWITCH			46	
	FOUR WAY SWITCH			46	
	KEYED SWITCH			46	
	SWITCH WITH PILOT			46	
	LOW VOLTAGE SWITCH			46	
	MOMENTARY CONTACT SWITCH WITH RTC			46	
	INFRARED OCCUPANCY SENSOR			46	
	ULTRASONIC OCCUPANCY SENSOR			46	
	DUAL TECHNOLOGY OCCUPANCY SENSOR			46	
	PHOTOCELL				
	JUNCTION BOX			18	
	SIMPLEX RECEPTACLE			18	
	DUPLEX RECEPTACLE ON NORMAL POWER			18	
	DUPLEX RECEPTACLE ON EMERGENCY POWER			18	
	DUPLEX RECEPTACLE ON UPS POWER			18	
	SPECIAL PURPOSE RECEPTACLE WITH NEMA CONFIGURATION INDICATED			18	
	FLOOR BOX				
	DOUBLE DUPLEX RECEPTACLE			18	
	ACCESS FLOOR DEVICE (SEE SPEC. FOR TYPE)				
	IN PLACE HAND HOLE				
	FURNISHED AND INSTALLED HAND HOLE				

ELECTRICAL DRAWING INDEX	
DRAWING NO.	DRAWING TITLE
E1	ELECTRICAL TITLE SHEET, SHEET INDEX AND SYMBOLS
E2	ELECTRICAL SALVAGE PLAN - EXISTING 33RD AVE SOUTH
E3	ELECTRICAL LIGHTING PLAN - EXISTING 33RD AVE SOUTH
E4	ELECTRICAL LIGHTING PLAN - EAST 81ST STREET
E5	ELECTRICAL LIGHTING PLAN - 33RD AVE SOUTH
E6	ELECTRICAL LIGHTING PLAN - 33RD AVE SOUTH
E7	ELECTRICAL POWER PLAN - EAST 81ST STREET
E8	ELECTRICAL POWER PLAN - 33RD AVE SOUTH
E9	ELECTRICAL POWER PLAN - 33RD AVE SOUTH
E10	ELECTRICAL DETAILS AND SCHEDULES
E11	ELECTRICAL WIRING DIAGRAMS, DETAILS AND SCHEDULES
E12	ELECTRICAL WIRING DIAGRAMS AND DETAILS
E13	ELECTRICAL WIRING DIAGRAMS
E14	EAST 81ST STREET LIGHTING
E15	33RD AVENUE SOUTH STREET LIGHTING
E16	LIGHTING TABULATION

BCS PHASE 2A INFRASTRUCTURE IMPROVEMENTS CITY PROJECT 2013-304

CITY OF BLOOMINGTON MINNESOTA

1700 W 80TH ST BLOOMINGTON MN 55431 PHONE (612) 963-9700

REVISIONS

ISSUED FOR BID	TJT
06/10/2014	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

TODD A. DALY

DATE 05/30/2014

LIC. 19588

DATE 05/30/2014

DRAWN: BER

CHECKED: JAK

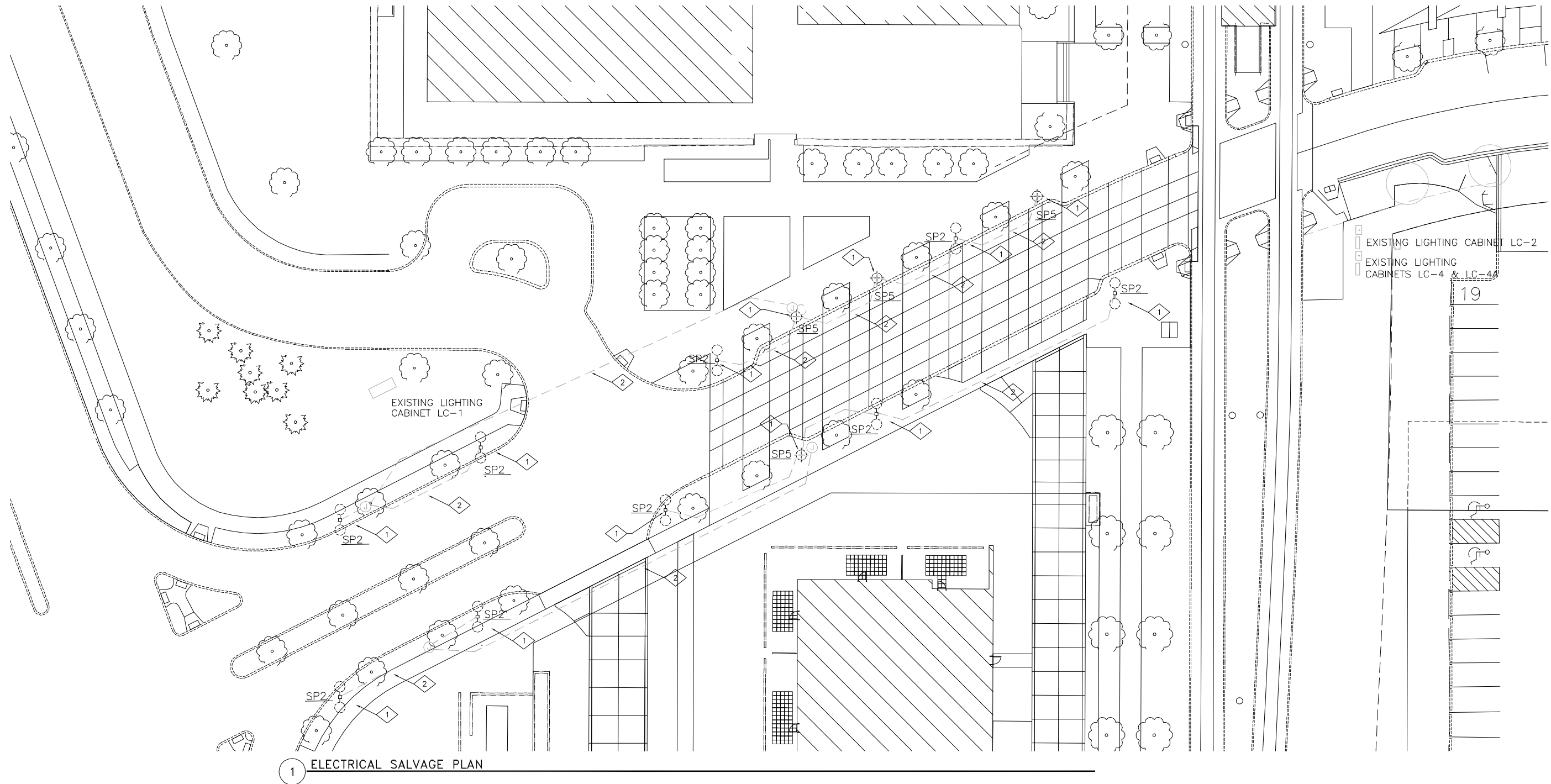
APPROVED: MJP

SHEET:

E1 OF 83

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33RD AVENUE SOUTH



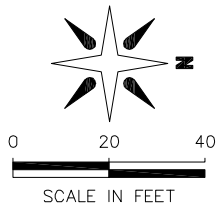
1 ELECTRICAL SALVAGE PLAN

GENERAL NOTES

- INSPECT SITE BEFORE SUBMITTING A PROPOSAL FOR THE PROJECT. CONTRACTOR AND SUBCONTRACTORS SHALL EXAMINE THE SITE OF PROPOSED WORK AND THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS AND LIMITATIONS AFFECTING THE PERFORMANCE OF THEIR WORK.
- ALL EQUIPMENT, DEVICES, AND LIGHTS INDICATED ON PLAN WERE TAKEN FROM EXISTING PLANS AND/OR FIELD OBSERVATION, AND SHALL NOT BE CONSIDERED 100% ACCURATE. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING SYSTEMS PRIOR TO BIDDING. NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH MAY AFFECT THE WORK UNDER THIS CONTRACT.
- VERIFY EXACT CONDITIONS PRIOR TO ANY WORK. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ADJACENT CIRCUITS THAT REMAIN TO DOWNSTREAM DEVICES/EQUIPMENT. RE-ROUTE CONDUIT AND WIRING AS NECESSARY.
- DEVICES AND EQUIPMENT SHOWN LIGHT ARE EXISTING TO REMAIN. DEVICES AND EQUIPMENT SHOWN DARK AND DASHED ARE TO BE SALVAGED, REFER TO NEW LIGHTING PLAN FOR LOCATIONS.
- REFER TO MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION – 2014 EDITION.
- ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL SITE WORK WITH CIVIL, ARCHITECTURAL, AND MECHANICAL DRAWINGS, AS WELL AS EXISTING SITE CONDITIONS, PRIOR TO INSTALLATION.

KEY NOTES

- SALVAGE AND REINSTALL EXISTING LIGHT FIXTURES AND POLES AT NEW LOCATIONS SHOWN ON SHEETS E4 AND E5.
- EXISTING CONDUIT, FEEDERS, HAND HOLES, CIRCUITS AND POLE BASES TO REMAIN AND BE REUSED FOR NEW LIGHT FIXTURES AND POLES, REFER TO SHEET E3 FOR NEW LIGHT FIXTURE DESIGNATIONS.



REVISIONS

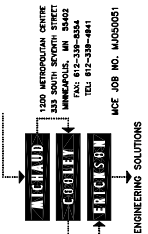
DATE	ISSUED FOR BID	TJT
06/10/2014		

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Todd A. Daly
TODD A. DALY
L.C. 19588 DATE 05/30/2014

DRAWN:
CHECKED:
APPROVED:

SHEET:
E2 OF 83



1320 METROPOLITAN CENTRE
543 SOUTH SEVENTH STREET
BLOOMINGTON, MN 55405
TEL 612-338-4341
FAX 612-338-4341
MCE JOB NO. M4050051



CITY OF
BLOOMINGTON
MINNESOTA
1700 W 85TH ST
BLOOMINGTON MN 55431
PHONE (612) 963-3760

BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

ELECTRICAL SALVAGE PLAN –
EXISTING 33RD AVENUE SOUTH



- A. INSPECT SITE BEFORE SUBMITTING A PROPOSAL FOR THE PROJECT. CONTRACTOR AND SUBCONTRACTORS SHALL EXAMINE THE SITE OF PROPOSED WORK AND THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS AND LIMITATIONS AFFECTING THE PERFORMANCE OF THEIR WORK.
- B. ALL EQUIPMENT, DEVICES, AND LIGHTS INDICATED ON PLAN WERE TAKEN FROM EXISTING PLANS AND/OR FIELD OBSERVATION, AND SHALL NOT BE CONSIDERED 100% ACCURATE. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING SYSTEMS PRIOR TO BIDDING. NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH MAY AFFECT THE WORK UNDER THIS CONTRACT.
- C. VERIFY EXACT CONDITIONS PRIOR TO ANY WORK. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ADJACENT CIRCUITS THAT REMAIN TO DOWNSTREAM DEVICES/EQUIPMENT. RE-ROUTE CONDUIT AND WIRING AS NECESSARY.
- D. REFER TO MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION – 2014 EDITION.
- E. ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL SITE WORK WITH CIVIL, ARCHITECTURAL, AND MECHANICAL DRAWINGS, AS WELL AS EXISTING SITE CONDITIONS, PRIOR TO INSTALLATION.

1 FURNISH AND INSTALL NEW LIGHT FIXTURES AND POLES AS SHOWN. EXISTING CONDUIT, FEEDERS, CIRCUITS AND POLE BASES TO BE REUSED FOR NEW LIGHT FIXTURES. ELECTRICAL CONTRACTOR TO FIELD VERIFY ANCHOR BOLT PATTERNS OF EXISTING POLE BASE FOUNDATIONS MATCH NEW LIGHT POLES PRIOR TO ORDERING AND PROCUREMENT.

REVISIONS

DRAWN: BER
CHECKED: JAK
APPROVED: MJP

SHEET:
E3 OF 83

→ MICHAUD → COOLEY → ERICKSON → ENGINEERING SOLUTIONS



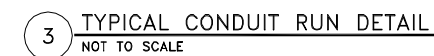
**CITY OF
BLOOMINGTON
MINNESOTA**

**1700 W 95TH ST.
BLOOMINGTON MN 55431
PHONE (952) 963-8700**

BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

ELECTRICAL LIGHTING PLAN -
EXISTING 33RD AVENUE SOUTH

FROM STA. 14+00 TO STA. 18+86



- A. REFER TO MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION – 2014 EDITION.
- B. ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL SITE WORK WITH CIVIL, ARCHITECTURAL, AND MECHANICAL DRAWINGS, AS WELL AS EXISTING SITE CONDITIONS, PRIOR TO INSTALLATION.
- C. ALL WIRING OF STREET LIGHTING BETWEEN POLES SHALL BE PLACED IN CONDUITS WITHIN THE BOULEVARD AREA ADJACENT TO THE STREET. CONDUITS LOCATED UNDER NON-DRIVEABLE AREAS SHALL BE 2 INCH RSC. ALL STREET LIGHTING CONDUITS LOCATED UNDER ROADWAYS AND/OR DRIVEWAYS SHALL BE 3 INCH RSC THAT EXTENDS THE LENGTH OF THE STREET OR DRIVEWAY CROSSING.
- D. NO LIGHTING CONDUITS SHALL BE PLACED IN IRRIGATION LINES, SUCH AS SPRINKLER SYSTEM LINES, ETC.
- E. CONDUIT AND HAND HOLES TO BE INSTALLED IN ROADWAY RIGHT-OF-WAY.
- F. FURNISH AND INSTALL HAND HOLES AS REQUIRED FOR CONDUIT ROUTING TO LIGHT FIXTURES.

KEY NOTES

- 1 REFER TO DETAIL 2 ON SHEET E10 FOR POLE BASE DETAILS.
- 2 EXISTING CONDUIT AND FEEDER TO REMAIN, FURNISH AND INSTALL PROTECTION DURING CONSTRUCTION.
- 3 FURNISH AND INSTALL ROADWAY LIGHTING SERVICE CABINET. REFER TO SHEET E11 FOR ROADWAY LIGHTING SERVICE CABINET DESCRIPTION.
- 4 CARLON (E989RRR SERIES OR APPROVED EQUAL) DIRECT BURIAL JUNCTION BOX -- TYPICAL.
- 5 CIRCUIT SITE LIGHTING TO LIGHTING SERVICE CABINET, TO 20A/2P CIRCUIT BREAKER. REFER TO POWER PLAN AND PANELBOARD SCHEDULE.
- 6 COORDINATE LIGHT FIXTURE LOCATION WITH TEMPORARY DRIVE, MAKE PROVISIONS FOR FUTURE INSTALLATION OF LIGHT FIXTURE.
- 7 EXISTING CONDUIT AND FEEDER FOR HEALTHPARTNERS PARKING LOT LIGHTING TO REMAIN, COORDINATE WITH CIVIL ENGINEER AND ARCHITECT FOR EXACT LOCATION.
- 8 NOT USED.
- 9 NEW HAND HOLE. FURNISH AND INSTALL A QUAZITE EXTRA HEAVY DUTY ANSI TYPE 22/SCTE 77 RATED BOX AND COVER PER CITY STANDARDS.

[illegible]

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

LIC. 19588 DATE 05/30/2014

DRAWN: BER
CHECKED: JAK
APPROVED: MJP

SHEET:
E4 OF 83

ELECTRICAL LIGHTING PLAN -
EAST 81ST STREET
FROM STA. 14+00 TO STA. 18+86

**CITY OF
BLOOMINGTON
MINNESOTA**

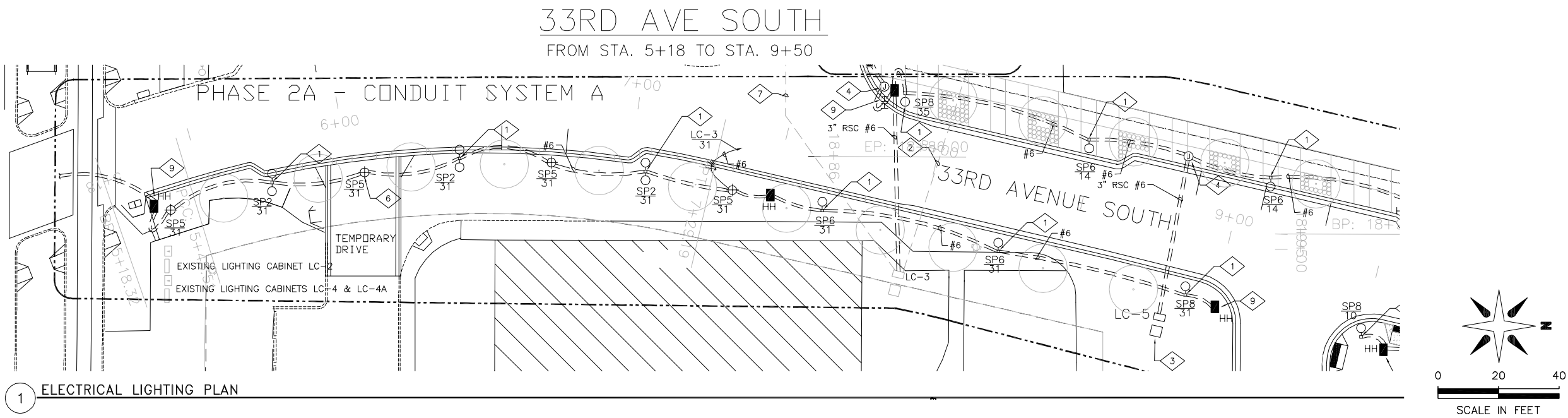
**1700 W 98TH ST.
BLOOMINGTON MN 55431
PHONE (612) 663-8700**

MICHAUD → **CROLEY** → **ERICKSON** → **ENGINEERING SOLUTIONS**

1200 METROPOLITAN CENTER
 383 SOUTH SEVENTH STREET
 MINNEAPOLIS, MN 55402
 FAX 612-338-8354
 TEL 612-339-4941

MCE JOB NO. MJO50051

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GENERAL NOTES

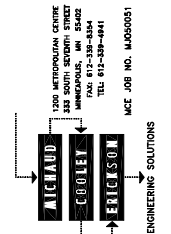
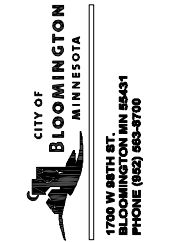
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BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

ELECTRICAL LIGHTING PLAN -
33RD AVE SOUTH
FROM STA. 5+18 TO STA. 9+50



REVISIONS

ISSUED FOR BID	TJT
06/10/2014	

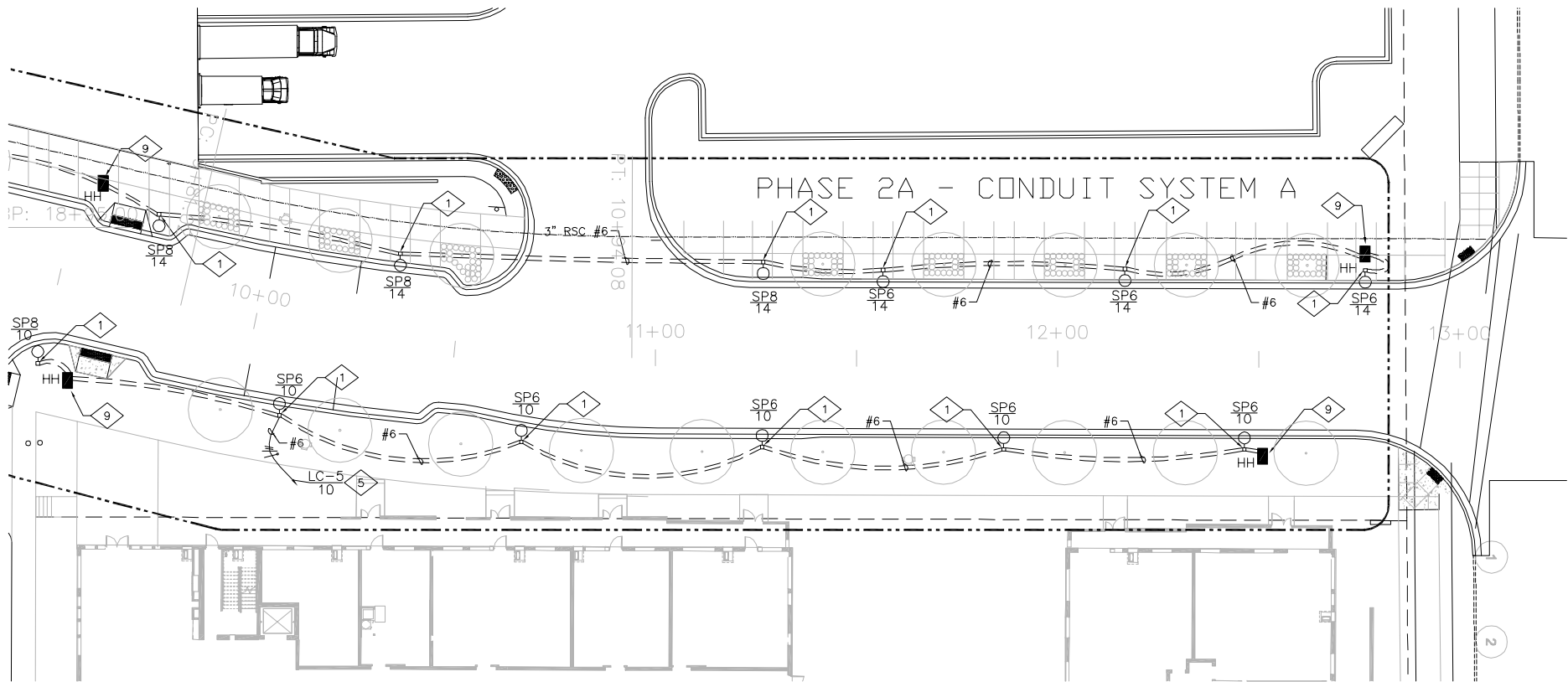
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

TODD A. DALY
DATE 05/30/2014
LIC. 19588

DRAWN: BER
CHECKED: JAK
APPROVED: MJP

SHEET:
E5 OF 83

Drawing name: G:\dwg\MAJ050051\PHASE 2A\E-L-2A-E4_E5_E6.dwg -- Printed: Jun 12, 2014 -- 4:37pm



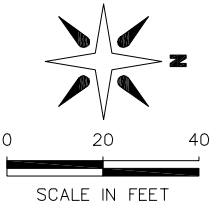
1 ELECTRICAL LIGHTING PLAN

GENERAL NOTES

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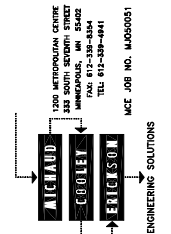
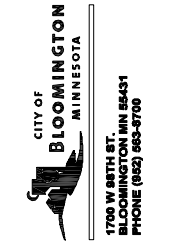
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- 8 NOT USED.
- 9 NEW HAND HOLE. FURNISH AND INSTALL A QUAZITE EXTRA HEAVY DUTY ANSI TIER 22/SCTE 77 RATED BOX AND COVER PER CITY STANDARDS.



BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

ELECTRICAL LIGHTING PLAN -
33RD AVE SOUTH
FROM STA. 9+50 TO STA. 13+84



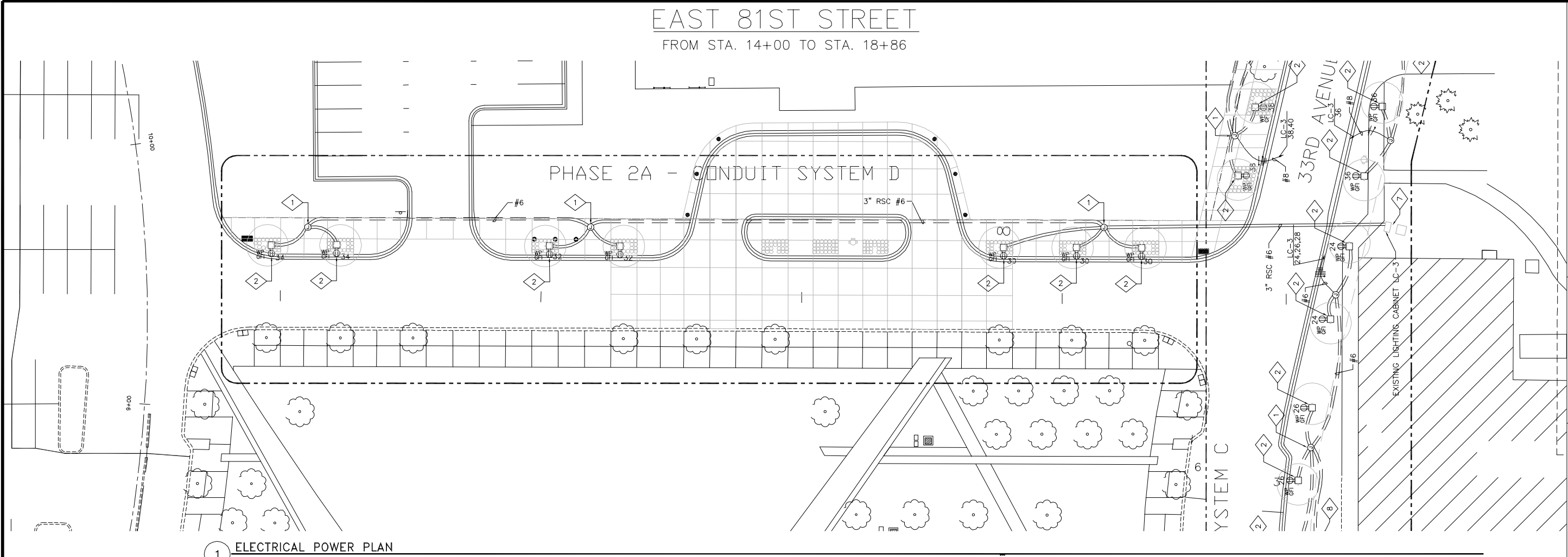
REVISIONS		ISSUED FOR BID	TJT
06/10/2014			

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Todd A. Daly
TODD A. DALY
LIC. 19588 DATE 05/30/2014

DRAWN: BER
CHECKED: JAK
APPROVED: MJP

Drawing name: G:\dwg\MAJ050051\PHASE 2A\E-P-2A-E7-E8-E9.dwg -- Printed: Jun 12, 2014 -- 4:26pm



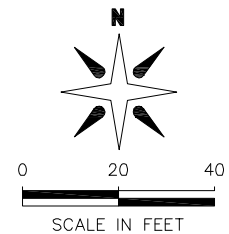
1 ELECTRICAL POWER PLAN

POWER GENERAL NOTES

- A. POWER PLAN IS FOR CONVENIENCE POWER AT TREES.
- B. SOME CONDUIT AND WIRING MAY NOT BE SHOWN GRAPHICALLY ON THE PLANS. IT IS THE INTENT OF THESE PLANS THAT THE SYSTEMS BE FURNISH AND INSTALLD COMPLETE BASED ON IDENTIFICATION OF CIRCUIT NUMBERS, RELAY NUMBERS, MOTOR EQUIPMENT SCHEDULE, PANEL BOUNDARIES, SPECIFIED MINIMUM CONDUIT SIZE, SPECIFIED MINIMUM CONDUCTOR SIZES, AND/OR SPECIFIED MINIMUM GROUNDING.
- C. ALL CONDUIT AND JUNCTION BOXES SHALL BE LABELED; SEE SPECIFICATION FOR SYSTEM COLOR CODING AND LABEL REQUIREMENTS.
- D. SUPPORTS FOR CONDUIT SHALL BE UL LISTED FOR THE PURPOSE AND SHALL BE INSTALLED AS REQUIRED BY THE NEC. REFER TO STRUCTURAL PLANS AND DETAILS FOR FASTENING REQUIREMENTS WHERE ATTACHING TO PARKING RAMP STRUCTURE.
- E. ALL INSTALLATION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- F. REFER TO THE ARCHITECTURAL DETAILS AND ELEVATION DRAWINGS FOR COORDINATION OF ALL ELECTRICAL DEVICES.
- G. REFER TO MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION – 2014 EDITION.
- H. ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL SITE WORK WITH CIVIL, ARCHITECTURAL, AND MECHANICAL DRAWINGS, AS WELL AS EXISTING SITE CONDITIONS, PRIOR TO INSTALLATION.
- I. ALL WIRING OF STREET LIGHTING BETWEEN POLES SHALL BE PLACED IN CONDUITS WITHIN THE BOULEVARD AREA ADJACENT TO THE STREET, TYPICALLY 6 INCHES BEHIND CURB. CONDUITS LOCATED UNDER NON-DRIVEABLE AREAS SHALL BE 2 INCH RSC. ALL STREET LIGHTING CONDUITS LOCATED UNDER ROADWAYS AND/OR DRIVEWAYS SHALL BE 3 INCH RSC THAT EXTENDS THE LENGTH OF THE STREET OR DRIVEWAY CROSSING.
- J. NO POWER/SYSTEMS CONDUITS SHALL BE PLACED IN IRRIGATION LINES, SUCH AS SPRINKLER SYSTEM LINES, ETC.

KEY NOTES

- 1 FURNISH AND INSTALL A QUAZITE DIRECT BURIAL JUNCTION BOX #PC1212BA12 SERIES OR APPROVED EQUAL.
- 2 RECEPTACLES TO BE MOUNTED AT THE BASE OF TREES. REFER TO DETAIL 4 ON SHEET E11 FOR RECEPTACLE POST MODEL AND MOUNTING DETAILS. COORDINATE LOCATION WITH LANDSCAPE CONTRACTOR.



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.		DRAWN: BER CHECKED: JAK APPROVED: MJP	
TODD A. DALY L.C. 19588		DATE 05/30/2014	
SHEET: E7 OF 83			

ALCIBAD
1000 INTERPOLAR CENTER
303 SOUTH SEVEN STREET
BLOOMINGTON, MN 55401
TEL 612-338-4342
FAX 612-338-4341

ERICSSON
ENGINEERING SOLUTIONS
MCE JOB NO. M050051

CITY OF BLOOMINGTON
MINNESOTA

1700 W 80TH ST
BLOOMINGTON MN 55431
PHONE (612) 963-9700

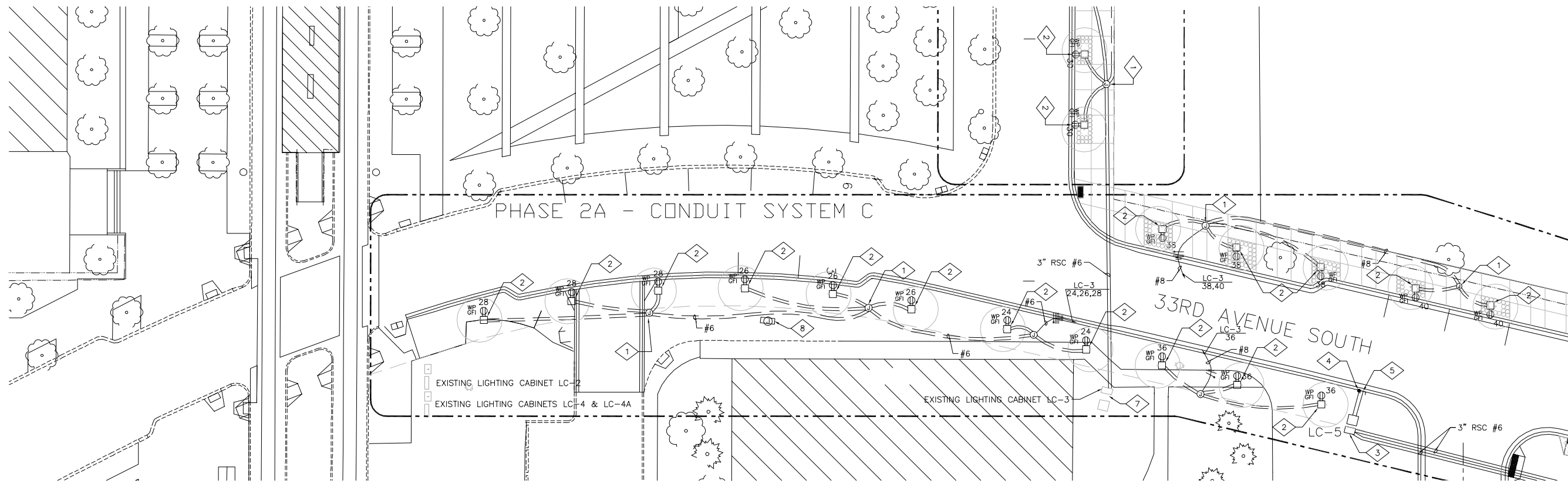
BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

ELECTRICAL POWER PLAN –
EAST 81ST STREET
FROM STA. 14+00 TO STA. 24+86

Drawing name: G:\dwg\MAJ050051\PHASE 2A\E-P--2A-E7-E8-E9.dwg -- Printed: Jun 12, 2014 -- 4:27pm

33RD AVENUE SOUTH

FROM STA. 5+18 TO STA. 9+50



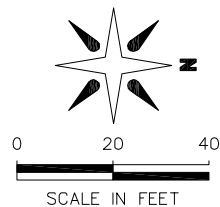
1 ELECTRICAL POWER PLAN

POWER GENERAL NOTES

- POWER PLAN IS FOR CONVENIENCE POWER AT TREES.
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- ALL CONDUIT AND JUNCTION BOXES SHALL BE LABELED; SEE SPECIFICATION FOR SYSTEM COLOR CODING AND LABEL REQUIREMENTS.
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- ALL INSTALLATION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- REFER TO THE ARCHITECTURAL DETAILS AND ELEVATION DRAWINGS FOR COORDINATION OF ALL ELECTRICAL DEVICES.
- REFER TO MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION -- 2014 EDITION.
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- NO POWER/SYSTEMS CONDUITS SHALL BE PLACED IN IRRIGATION LINES, SUCH AS SPRINKLER SYSTEM LINES, ETC.

KEY NOTES

- FURNISH AND INSTALL A QUAZITE DIRECT BURIAL JUNCTION BOX #PC1212BA12 SERIES OR APPROVED EQUAL.
- RECEPTACLES TO BE MOUNTED AT THE BASE OF TREES. REFER TO DETAIL 4 ON SHEET E11 FOR RECEPTACLE POST MODEL AND MOUNTING DETAILS. COORDINATE LOCATION WITH LANDSCAPE CONTRACTOR.
- FURNISH AND INSTALL NEW ROADWAY LIGHTING SERVICE ENCLOSURE. REFER TO SHEET E11 FOR ADDITIONAL INFORMATION. FURNISH AND INSTALL 2" CONDUIT WITH 3#3/0 & 1#6 GND FROM XCEL TRANSFORMER TO NEW ROADWAY LIGHTING SERVICE CABINET. COORDINATE EXACT LOCATION WITH UTILITY AND ARCHITECT.
- XCEL TO FURNISH AND INSTALL IN-LINE SPLICE KIT AND SPLICE INTO EXISTING 13.8 KVA XCEL FEEDERS TO FEED INTO ELECTRICAL ROADWAY LIGHTING SERVICE CABINET (FURNISH AND INSTALLED BY THE ELECTRICAL CONTRACTOR) AND XCEL FURNISH AND INSTALLED TRANSFORMER, COORDINATE WITH XCEL POWER.
- FURNISH AND INSTALL A 4" EMPTY CONDUIT FOR XCEL USE, VERIFY EXACT SIZE AND LOCATION WITH XCEL.
- RECEPTACLES TO BE MOUNTED BETWEEN TREES. REFER TO DETAIL 4 ON SHEET E11 FOR RECEPTACLE POST MODEL AND MOUNTING DETAILS. COORDINATE LOCATION WITH LANDSCAPE CONTRACTOR.
- FURNISH AND INSTALL (9) 20A/1P AND (2) 20A/2P CIRCUIT BREAKERS IN EXISTING LIGHTING SERVICE CABINET LC-3.
- FURNISH AND INSTALL A DEDICATED 120V CIRCUIT FOR THE LAWN IRRIGATION EQUIPMENT CONTROLLER. COORDINATE EXACT LOCATION WITH LANDSCAPE CONTRACTOR. FURNISH AND INSTALL A 20A/1P CIRCUIT BREAKER IN NEAREST EXISTING PANEL. CONTRACTOR TO FIELD VERIFY EXACT PANEL LOCATION.
- ELECTRICAL CONTRACTOR SHALL DISCONNECT AND RECONNECT EXISTING UTILITY AS REQUIRED FOR CONSTRUCTION, VERIFY EXACT REQUIREMENTS WITH UTILITY.



REVISIONS

ISSUED FOR BID	TJT
06/10/2014	

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TODD A. DALY
DATE 05/30/2014
LIC. 19588

DRAWN: BER
CHECKED: JAK
APPROVED: MJP

SHEET:
E8 OF 83

CITY OF
BLOOMINGTON
MINNESOTA
1700 W 80TH ST
BLOOMINGTON MN 55431
PHONE (612) 865-3700

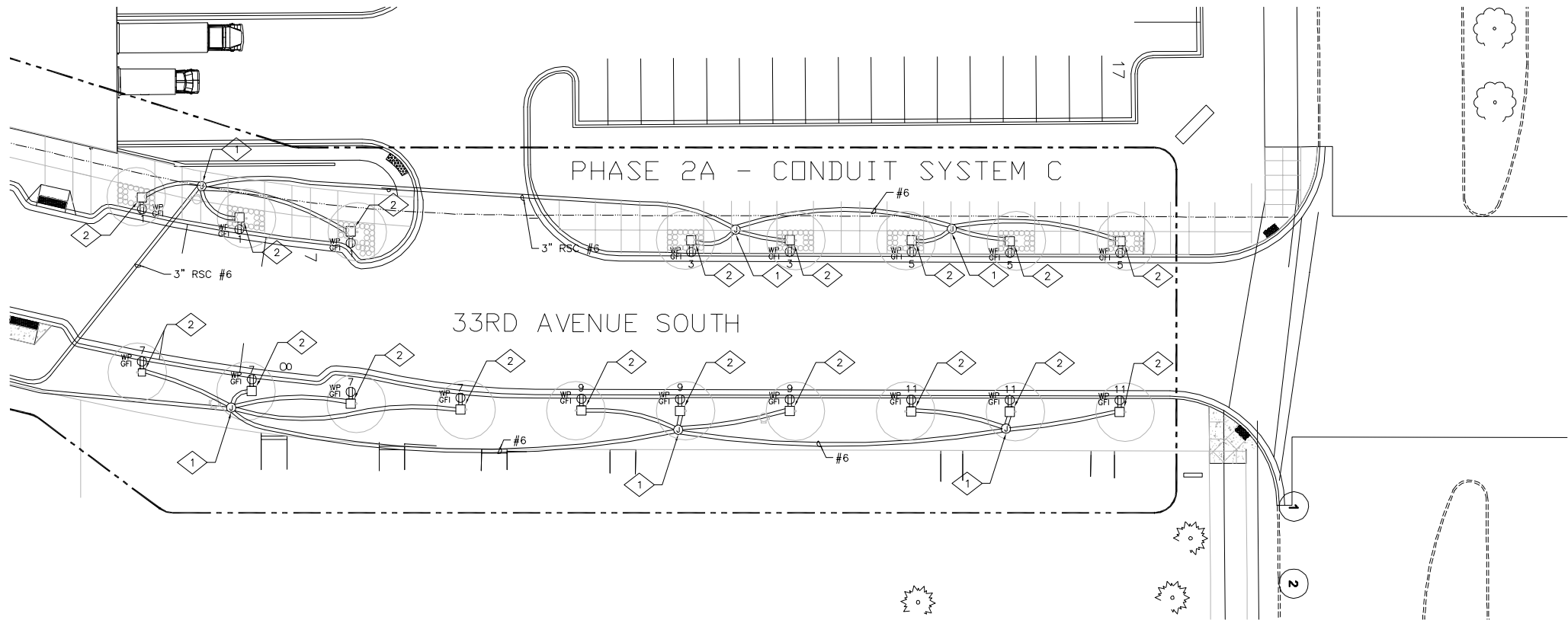
1000 INTERPOLAR CENTER
333 SOUTH SEVENTH STREET
BLOOMINGTON, MN 55403
TEL 612-338-4344
FAX 612-338-4461
MCE JOB NO. M4050051
ERICSSON
ENGINEERING SOLUTIONS

BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304
ELECTRICAL POWER PLAN -
33RD AVE SOUTH
FROM STA. 5+18 TO STA. 9+50

Drawing name: G:\dwg\MAJ050051\PHASE 2A\E-P-2A-E7-E8-E9.dwg -- Printed: Jun 12, 2014 -- 4:30pm

33RD AVENUE SOUTH

FROM STA. 9+50 TO STA. 13+84



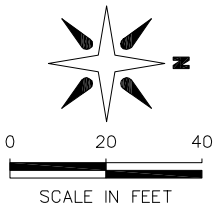
1 ELECTRICAL POWER PLAN

POWER GENERAL NOTES

- POWER PLAN IS FOR CONVENIENCE POWER AT TREES.
- SOME CONDUIT AND WIRING MAY NOT BE SHOWN GRAPHICALLY ON THE PLANS. IT IS THE INTENT OF THESE PLANS THAT THE SYSTEMS BE FURNISH AND INSTALLD COMPLETE BASED ON IDENTIFICATION OF CIRCUIT NUMBERS, RELAY NUMBERS, MOTOR EQUIPMENT SCHEDULE, PANEL BOUNDARIES, SPECIFIED MINIMUM CONDUIT SIZE, SPECIFIED MINIMUM CONDUCTOR SIZES, AND/OR SPECIFIED MINIMUM GROUNDING.
- ALL CONDUIT AND JUNCTION BOXES SHALL BE LABELED; SEE SPECIFICATION FOR SYSTEM COLOR CODING AND LABEL REQUIREMENTS.
- SUPPORTS FOR CONDUIT SHALL BE UL LISTED FOR THE PURPOSE AND SHALL BE INSTALLED AS REQUIRED BY THE NEC. REFER TO STRUCTURAL PLANS AND DETAILS FOR FASTENING REQUIREMENTS WHERE ATTACHING TO PARKING RAMP STRUCTURE.
- ALL INSTALLATION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT NATIONAL ELECTRICAL CODE (NFPA 70) AND ALL APPLICABLE LOCAL, STATE, AND NATIONAL CODES.
- REFER TO THE ARCHITECTURAL DETAILS AND ELEVATION DRAWINGS FOR COORDINATION OF ALL ELECTRICAL DEVICES.
- REFER TO MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION – 2014 EDITION.
- ELECTRICAL CONTRACTOR TO COORDINATE ALL ELECTRICAL SITE WORK WITH CIVIL, ARCHITECTURAL, AND MECHANICAL DRAWINGS, AS WELL AS EXISTING SITE CONDITIONS, PRIOR TO INSTALLATION.
- ALL WIRING OF STREET LIGHTING BETWEEN POLES SHALL BE PLACED IN CONDUITS WITHIN THE BOULEVARD AREA ADJACENT TO THE STREET, TYPICALLY 6 INCHES BEHIND CURB. CONDUITS LOCATED UNDER NON-DRIVEABLE AREAS SHALL BE 2 INCH RSC. ALL STREET LIGHTING CONDUITS LOCATED UNDER ROADWAYS AND/OR DRIVEWAYS SHALL BE 3 INCH RSC THAT EXTENDS THE LENGTH OF THE STREET OR DRIVEWAY CROSSING.
- NO POWER/SYSTEMS CONDUITS SHALL BE PLACED IN IRRIGATION LINES, SUCH AS SPRINKLER SYSTEM LINES, ETC.

KEY NOTES

- FURNISH AND INSTALL A QUAZITE DIRECT BURIAL JUNCTION BOX #PC1212BA12 SERIES OR APPROVED EQUAL.
- RECEPTACLES TO BE MOUNTED AT THE BASE OF TREES. REFER TO DETAIL 4 ON SHEET E11 FOR RECEPTACLE POST MODEL AND MOUNTING DETAILS. COORDINATE LOCATION WITH LANDSCAPE CONTRACTOR.



REVISIONS

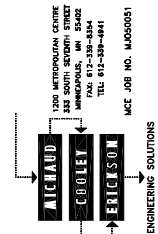
ISSUED FOR BID	TJT
06/10/2014	

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Todd A. Daly
TODD A. DALY
LIC. 19588 DATE 05/30/2014

DRAWN: BER
CHECKED: JAK
APPROVED: MJP

SHEET:
E9 OF 83

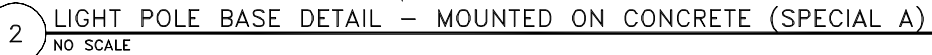
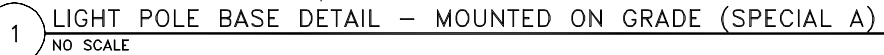


CITY OF
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BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304
ELECTRICAL POWER PLAN -
33RD AVE SOUTH
FROM STA. 9+50 TO STA. 13+84

LTR TYPE	FIXTURE TYPE	SOURCE	MOUNTING	LAMPS	FEATURES	VOLTAGE & BALLAST	MANUFACTURER & CATALOG SERIES	NOTES	QUANTITY
SP1	TYPE SPECIAL 1-STREET AND PEDESTRIAN	MH	15' TAP. ALUM. POLE	(2) (1)100W ED-17 CLEAR AND (1)70PAR38 /	ALUMINUM ARM AND SHADE, ASYMMETRICAL REFLECTOR, BLACK FINISH, TWO FIXTURE HEADS, ONE AT 10' HEIGHT, THE OTHER AT 15', APPROX. 15' ROUND ALUMINUM POLE, INLINE FUSE	240V MAGNETIC	SELUX RITORNO CUST COMBO REFER TO SELUX QUOTE	1,3	1
SP2	TYPE SPECIAL 2-EXISTING/SALVAGED	MH	15' TAP. ALUM. POLE	(2) (1)100W ED-17 CLEAR AND (1)70PAR38 /	SAME AS TYPE SP1, SALVAGED AND RELOCATED	240V MAGNETIC	EXISTING-SALVAGED AND RELOCATED FROM PHASE 1	1,3	9
SP4	TYPE SPECIAL 4 PEDESTRIAN POLE-NO ARM	MH	10' ROUND ALUM. POLE	(1) 70PAR38/MH	ALUMINUM ARM AND SHADE, ASYMMETRICAL REFLECTOR, BLACK FINISH, OVERALL FIXTURE/POLE COMBO TO BE APPROX. 12', NO ARM, INLINE FUSE	240V MAGNETIC	SELUX RITORNO MINI REFER TO SELUX QUOTE NUMBER 110752	1,3	3
SP5	TYPE SPECIAL 5 EXISTING/SALVAGED	MH	10' ROUND ALUM. POLE	(1) 70PAR38/MH	SAME AS TYPE SP4, SALVAGED AND RELOCATED	240V MAGNETIC	EXISTING-SALVAGED AND RELOCATED FROM PHASE 1	1,3	4
SP6	TYPE SPECIAL 6 SELUX POLE- SHORT ARM	MH	16' TAPER ALUM. POLE	(1) 70WT/MED/MH	FORMED ALUMINUM HOUSING 19" DIAMETER, FLAT GLASS LENS, BLACK FINISH, 16' POLE, 5' STRAIGHT ALUMINUM POLE, S1 MOUNT-SINGLE 29' ARM, INLINE FUSE	240V MAGNETIC	SELUX ARC MINI WITH 16' POLE	1,2,3	26
SP8	TYPE SPECIAL 8 SELUX POLE- SHORT ARM	MH	16' TAPER ALUM. POLE	(1) 100WT/MED/MH	SAME AS SP6, BUT 100WT LAMP	240V MAGNETIC	SELUX ARC MINI WITH 16' POLE	1,2,3	5

1. FURNISH AND INSTALL COURED PRECAST CONCRETE POLE BASE WHERE LIGHT POLES ARE MOUNTED ON CONCRETE, REFER TO LIGHT POLE BASE DETAIL - MOUNTED ON CONCRETE (SPECIAL A) THIS SHEET.
2. 13" TYPE SP6 TO BE MOUNTED ON EXISTING POLE BASES. VERIFY MOUNTING REQUIREMENTS AND ANCHOR BOLT CONFIGURATIONS. FURNISH AND INSTALL BOLT PATTERN ADAPTER.
3. FURNISH AND INSTALL POLE BASE PER LIGHT POLE DETAIL - MOUNTED ON GRADE (SPECIAL A) THIS SHEET.



TJT

TODD A. DALY

TODD A. DALY

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SHEET:
E10 OF 83

CITY OF
BLOOMINGTON

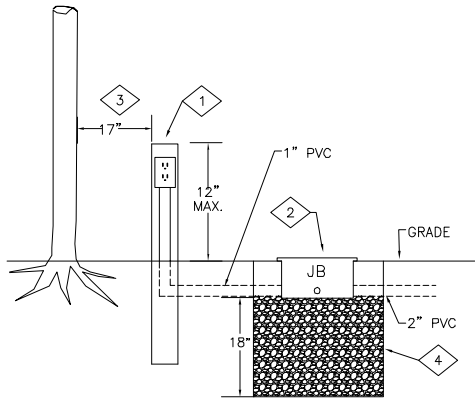
ELECTRICAL DETAILS
AND SCHEDULES

MICHAUD → **COOLEY** → **ERICKSON** →

1200 METROPOLITAN CENTRE
333 SOUTH SEVENTH STREET
MINNEAPOLIS, MN 55402
FAX: 612-338-8304
TEL: 612-338-4841

MCE JOB NO. MJ050051

Drawing name: G:\dwg\MAJ05005\PHASE 2A[E-TS-EI-EI0-EI1-EI2-EI3.dwg -- Printed: Jun 12, 2014 -- 4:24pm

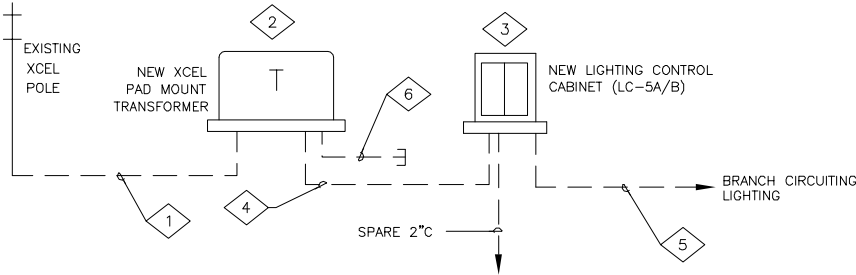


KEY NOTES

- GFI DUPLEX RECEPTACLE IN WEATHERPROOF POST, PEDOC POWER SOLUTIONS ONE GANG HINGE TOP, DIRECT BURIAL, NEMA 3R, BLACK FINISH.
- FURNISH AND INSTALL A QUAZITE DIRECT BURIAL JUNCTION BOX #PC1212BA12 SERIES OR APPROVED EQUAL. MOUNT JUNCTION BOX ABOVE WATER TABLE. LANDSCAPE CONTRACTOR TO BURY TOP OF BOX.
- TREE FURNISH AND INSTALLED BY OTHERS. RECEPTACLE SHALL BE LOCATED APPROXIMATELY 17" FROM TREE. FIELD VERIFY EXACT LOCATION.
- FURNISH AND INSTALL 18" MINIMUM GRAVEL BELOW JUNCTION BOX.

4 RECEPTACLE AT TREE DETAIL
NOT TO SCALE

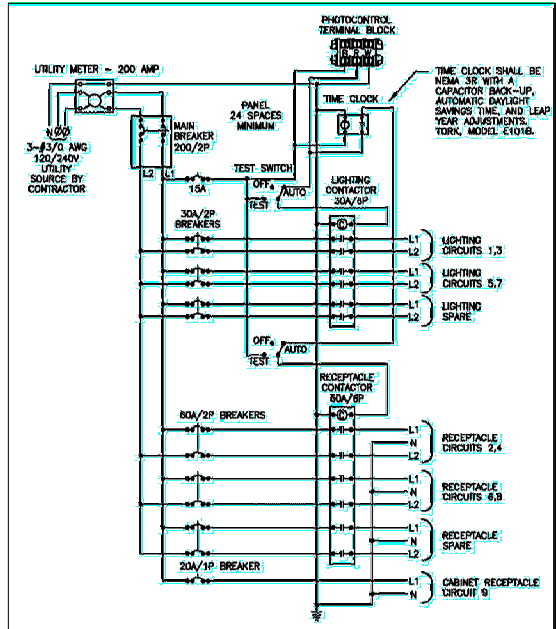
PANELBOARD SCHEDULE										PANEL DESIGNATION LC-5									
SERVICE VOLTAGE 120/240V					BUS RATING 100A					LOCATION E. 80-1/2									
MOUNTING -					BUS CONNECTION 2P/3W														
DESCRIPTION	kVA			BREAKER	CKT No					CKT No	BREAKER	AMP	POLE	kVA			DESCRIPTION		
	A	B	C											A	B	C			
TREE GFI RECEPTACLES	0.6			1	20	1				2	20	2	-				FUTURE		
TREE GFI RECEPTACLES		0.4		1	20	3				4	-	-	-				/		
TREE GFI RECEPTACLES			0.6	1	20	5				6	20	2					FUTURE		
TREE GFI RECEPTACLES	0.8			1	20	7				8	-	-	-				/		
TREE GFI RECEPTACLES		0.6		1	20	9				10	20	2		.3			ROADWAY LIGHTS		
TREE GFI RECEPTACLES			0.6	1	20	11				12	-	-	-	.3			/		
FUTURE	-			1	20	13				14	20	2	0.4				ROADWAY LIGHTS		
FUTURE		-		1	20	15				16	-	-	-	0.3			/		
FUTURE			-	1	20	17				18	20	2	-				SPARE		
FUTURE	-			1	20	19				20	-	-	-				/		
FUTURE			-	1	20	21				22	20	2	-				SPARE		
FUTURE			-	1	20	23				24	-	-	-				/		
FUTURE	-			1	20	25				26	20	2					SPARE		
FUTURE			-	1	20	27				28	-	-	-				/		
SPARE				1	20	29				30	20	1					PHOTOCELL		
TOTALS	1.4	1.0	1.2											0.4	0.6	0.3			
BUS A (kVA) 1.8					MAIN (BREAKER) SOURCE					MCB					KAIC MIN = 20,000				
BUS B (kVA) 1.6										XCEL									
BUS C (kVA) 1.5																			
TOTAL CONNECTED LOAD = 4.9 (kVA)																			



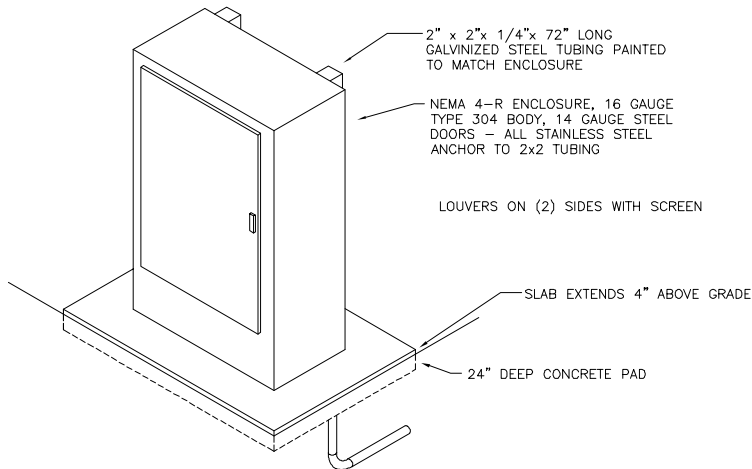
KEY NOTES

- NEW XCEL UNDERGROUND 13.8KV FEEDER TO PAD MOUNTED TRANSFORMER. (NIC) VERIFY LOCATION OF UNDERGROUND FEEDER WITH XCEL AND GENERAL CONTRACTOR.
- NEW 30KVA 13.8KVA TO 120/240 XCEL PAD MOUNT TRANSFORMER. FURNISH AND INSTALLED BY XCEL POWER. VERIFY SIZE/LOCATION WITH XCEL ENERGY.
- NEW 200 AMP 120/240, 1PH, 3 WIRE LIGHTING CONTROL CABINET FURNISH AND INSTALLED BY DIVISION 16, COORDINATE WITH XCEL POWER. CONTROL CABINET TO INCLUDE XCEL METER; BRANCH CIRCUIT BREAKERS; PHOTOCELLS; LIGHTNING ARRESTORS, TVSS. (REFER TO DETAIL SHEET 1/E14)
- 200 AMP 120/240, 1PH, 3 WIRE FEEDER BY DIVISION 16.
- REFER TO LIGHTING PLAN AND POWER PLAN FOR CONDUIT SIZE AND ASSOCIATED WIRING.
- FURNISH AND INSTALL A 4" EMPTY CONDUIT FROM FROM EXISTING XCEL PAD MOUNTED SWITCH. CONDUIT IS FOR FUTURE XCEL HIGH VOLTAGE FEEDER (LOOP)COORDINATE WITH XCEL POWER.

3 RISER DIAGRAM
NOT TO SCALE



1 LIGHTING AND RECEPTACL CONTROL ENCLOSURE WIRING DIAGRAM
NOT TO SCALE



ENCLOSURE NOTES:

A. SEE DETAIL #1 ON SHEE E12 FOR ADDITIONAL INFORMATION.

2 LIGHTING AND RECEPTACL CONTROL ENCLOSURE
NOT TO SCALE

BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

CITY OF
BLOOMINGTON
MINNESOTA

1700 W 88TH ST
BLOOMINGTON MN 55431
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REVISIONS

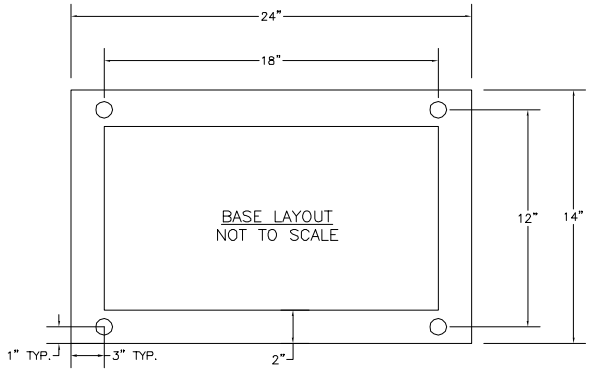
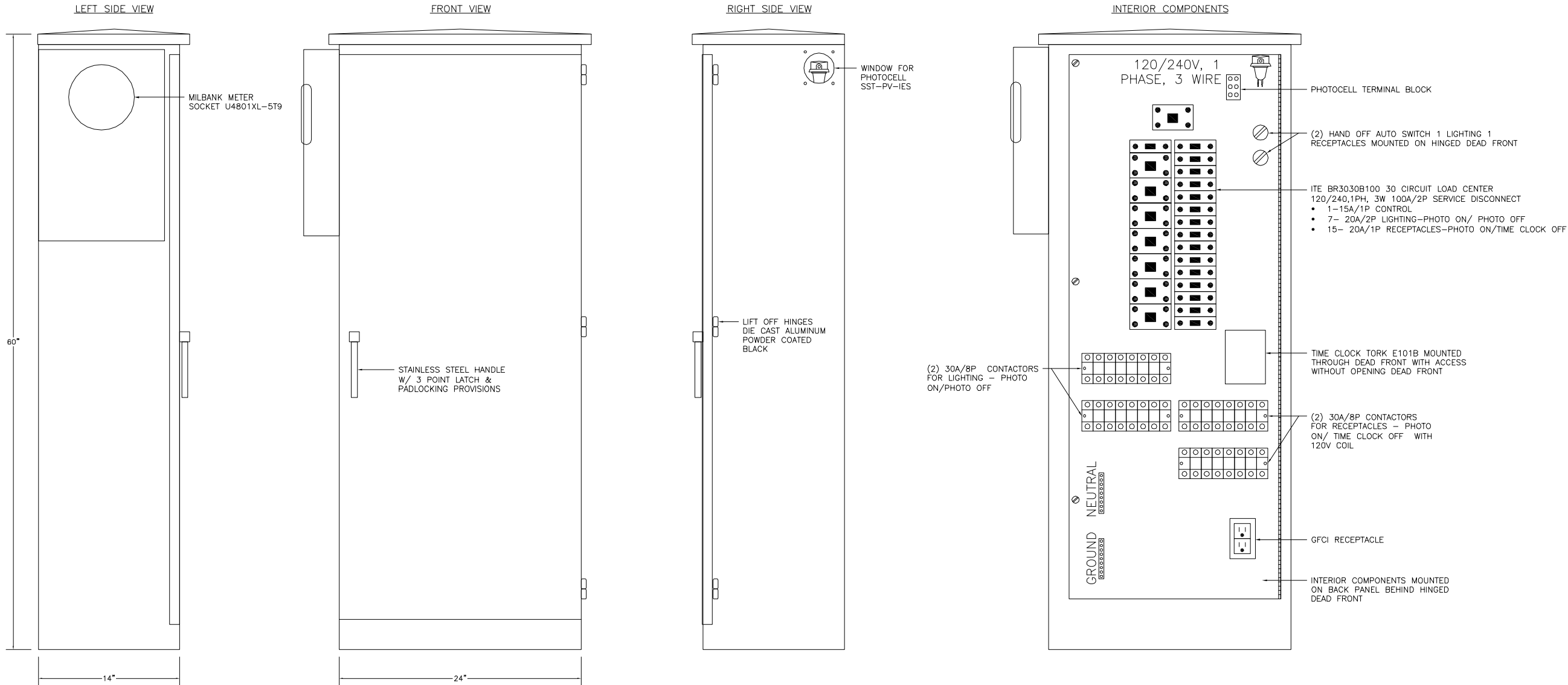
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06/10/2014	

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THE LAWS OF THE STATE OF MINNESOTA.

TODD A. DALY
DATE 05/30/2014
LIC. 19588

DRAWN: BER
CHECKED: JAK
APPROVED: MJP

SHEET:
E11 OF 83



- BOX CONSTRUCTION:**
- NEMA3R -1/8" ALUMINUM 5052-H32
 - ANODIZED 30MIN. CLEAR
 - NEOPRENE GASKET ON DOORS
 - STAINLESS STEEL HARDWARE (UNLESS OTHERWISE NOTED)
 - ETL LISTED IN ACCORDANCE W/ UL508A

1 LIGHTING AND RECEPTACL CONTROL ENCLOSURE DETAILS
NOT TO SCALE

BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304
ELECTRICAL WIRING DIAGRAMS
AND DETAILS

CITY OF
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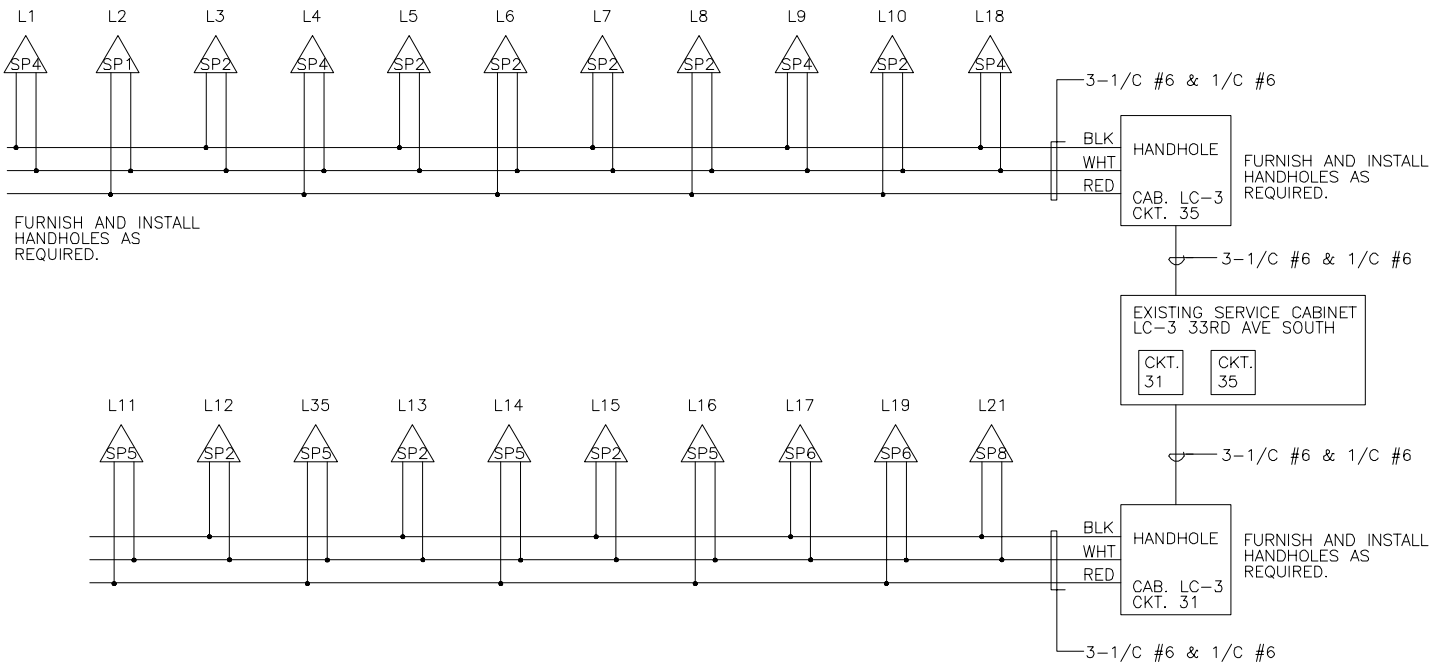
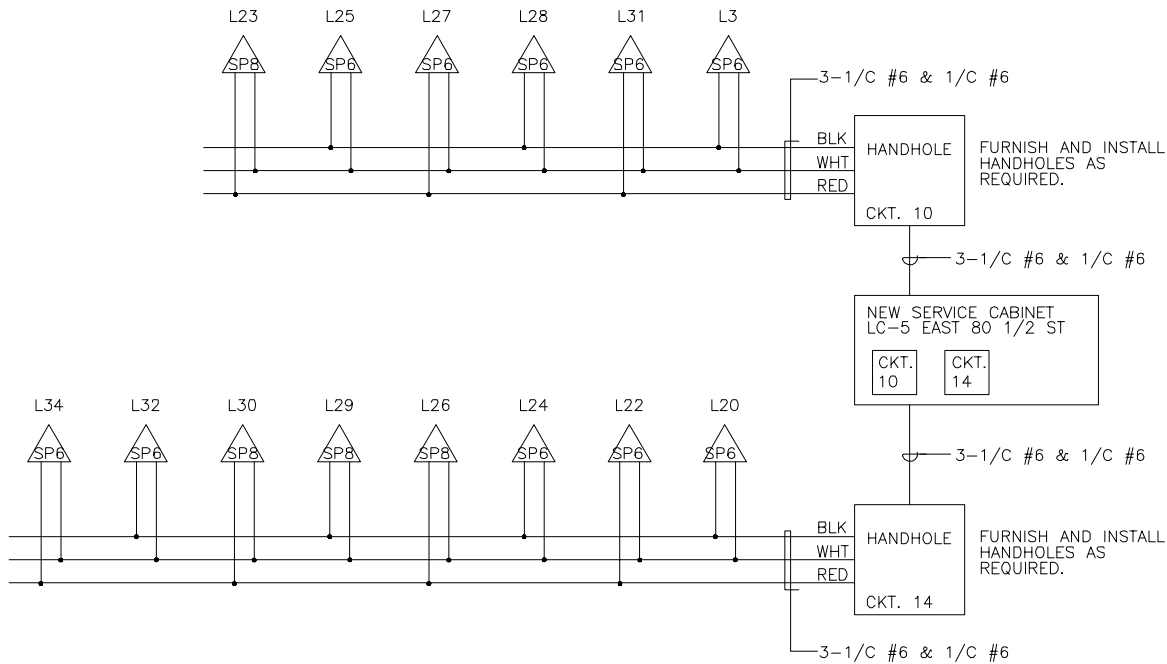
1000 METROPOLITAN CENTRE
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Todd A. Daly
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LIC. 19588 DATE 05/30/2014

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APPROVED: MJP

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LEGEND

SP8 STREET LIGHT IDENTIFIER

CKT. 31 CIRCUIT BREAKER NUMBER

NOTE:
HANDHOLES/JUNCTION BOXES FOR
SPlicing ARE NOT SHOWN,
FURNISH AND INSTALL AS
REQUIRED, REFER TO PLANS FOR
LOCATIONS.

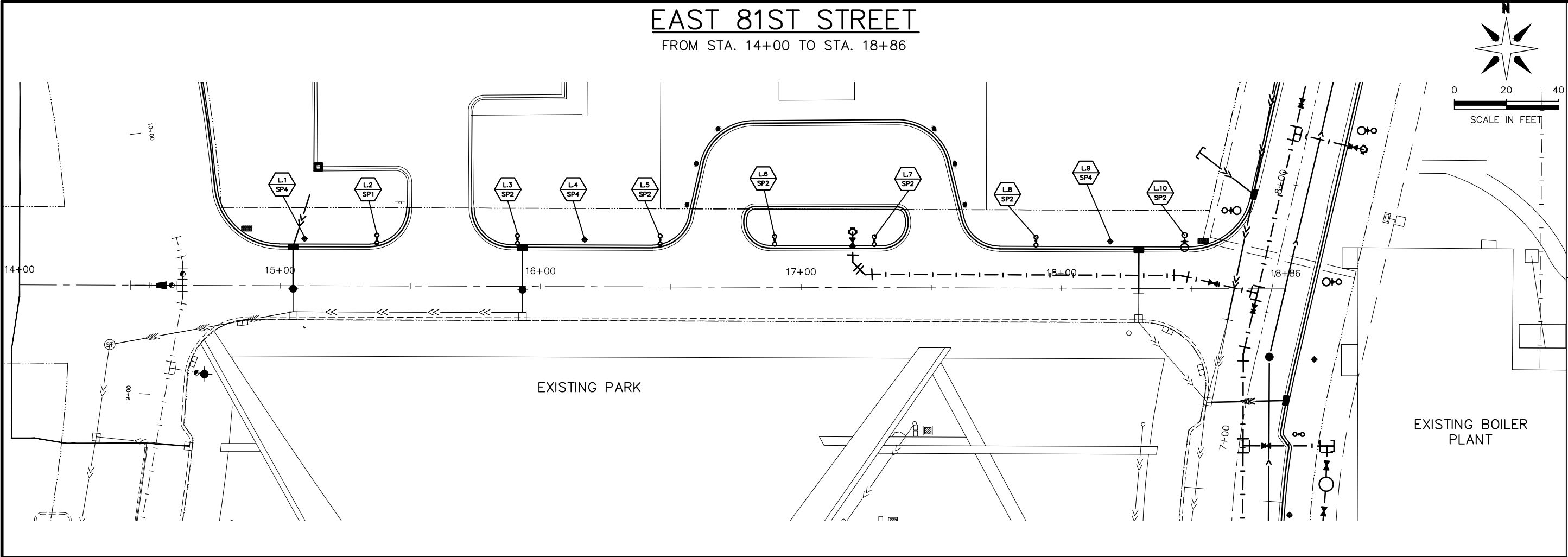
REVISIONS

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06/10/2014	

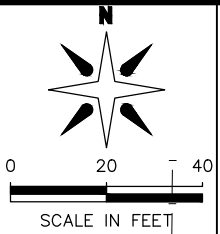
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TODD A. DALY
LIC. 19588 DATE 05/30/2014

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CHECKED: JAK
APPROVED: MJP


Drawing name: K:\TWC_Civil\City\BLOOMINGTON\BCS Phase 2 Infrastructure\CAD\Plan Sheets\Layouts\160591004_LGTLOC01.dwg -- Printed: Jun 10, 2014 -- 8:22am



EAST 81ST STREET
FROM STA. 14+00 TO STA. 18+86




BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304
EAST 81ST STREET LIGHTING
FROM STA. 14+00 TO STA. 18+86



CITY OF
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Kimley-Horn
and Associates, Inc.

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ST. PAUL, MINNESOTA 55114
TEL. NO. (651) 644-4197
FAX. NO. (651) 644-5116

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DATE	DESCRIPTION	BY	21433 6/10/14 THOMAS G. LINCOLN LIC. #	DATE
06/10/2014	ISSUED FOR BID	TJL		
DRAWN: LMM CHECKED: BRE APPROVED: TJL			SHEET: E14 OF 83	




DRAWN: LMM CHECKED: BRE APPROVED: TJL
SHEET: E15 OF 83

LIGHTING TABULATION						
ID	TYPE	ALIGNMENT	STATION	OFFSET	ELEVATION	NOTES
L.1	SP-4	E. 81ST ST.	15+09.38	18.00' LT	817.50	
L.2	SP-1	E. 81ST ST.	15+37.14	18.00' LT	817.77	
L.3	SP-2	E. 81ST ST.	15+91.12	18.00' LT	818.37	
L.4	SP-4	E. 81ST ST.	16+16.88	18.00' LT	818.65	
L.5	SP-2	E. 81ST ST.	16+45.87	18.00' LT	818.97	
L.6	SP-2	E. 81ST ST.	16+89.81	18.00' LT	819.26	
L.7	SP-2	E. 81ST ST.	17+28.08	18.00' LT	819.26	
L.8	SP-2	E. 81ST ST.	17+90.14	18.00' LT	818.83	
L.9	SP-4	E. 81ST ST.	18+18.61	18.00' LT	818.60	
L.10	SP-2	E. 81ST ST.	18+47.19	18.00' LT	818.63	
L.11	SP-5	33RD AVE. S.	5+36.61	22.00' RT	816.89	
L.12	SP-2	33RD AVE. S.	5+73.41	22.00' RT	816.52	
L.13	SP-2	33RD AVE. S.	6+40.14	22.00' RT	817.19	
L.14	SP-5	33RD AVE. S.	6+72.52	22.00' RT	817.53	
L.15	SP-2	33RD AVE. S.	7+05.74	22.00' RT	818.04	
L.16	SP-5	33RD AVE. S.	7+36.60	22.00' RT	818.42	
L.17	SP-6	33RD AVE. S.	7+67.12	22.00' RT	818.92	
L.18	SP-8	33RD AVE. S.	7+84.98	22.00' LT	818.88	
L.19	SP-6	33RD AVE. S.	8+26.70	22.00' RT	817.38	
L.20	SP-6	33RD AVE. S.	8+47.20	22.00' LT	819.52	
L.21	SP-8	33RD AVE. S.	8+90.19	22.00' RT	819.80	
L.22	SP-6	33RD AVE. S.	9+08.78	22.00' LT	819.79	
L.23	SP-8	33RD AVE. S.	9+49.83	22.00' RT	819.96	
L.24	SP-8	33RD AVE. S.	9+70.37	22.00' LT	820.22	
L.25	SP-6	33RD AVE. S.	10+09.94	22.00' RT	820.46	
L.26	SP-6	33RD AVE. S.	10+33.75	22.00' LT	820.55	
L.27	SP-6	33RD AVE. S.	10+67.82	22.00' RT	820.85	
L.28	SP-6	33RD AVE. S.	11+26.65	22.00' RT	821.20	
L.29	SP-8	33RD AVE. S.	11+26.71	22.00' LT	821.21	
L.30	SP-6	33RD AVE. S.	11+56.53	22.00' LT	821.39	
L.31	SP-6	33RD AVE. S.	11+86.48	22.00' RT	821.57	
L.32	SP-6	33RD AVE. S.	12+16.49	22.00' LT	821.75	
L.33	SP-6	33RD AVE. S.	12+46.61	22.00' RT	821.86	
L.34	SP-6	33RD AVE. S.	12+76.48	22.00' LT	821.73	

REVISIONS

DATE	DESCRIPTION	BY
06/10/2014	ISSUED FOR BID	TJL


HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.


THOMAS G. LINCOLN

21433 6/10/14
LIC. # DATE

DRAWN: LMM
CHECKED: BRE
APPROVED: TJL

SHEET:
E16 OF 83




CITY OF

BLOOMINGTON

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BCS PHASE 2A INFRASTRUCTURE
IMPROVEMENTS CITY PROJECT 2013-304

LIGHTING TABULATION